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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2015

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number: 001-36510

Zafgen, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**20-3857670**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

175 Portland Street, 4th Floor
Boston, Massachusetts 02114
(Address of principal executive office) (Zip Code)

Registrant's telephone number, including area code: (617) 622-4003

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒ (Do not check if a smaller reporting company)	Smaller reporting company	☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 30, 2015, there were 27,234,542 shares of the registrant's Common Stock, $0.001 par value per share, outstanding.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other than statements of historical facts contained in this Quarterly Report on Form 10-Q are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- our plans to develop and commercialize beloranib as a treatment for obesity that is a co-morbidity of an underlying rare condition such as Prader Willi syndrome; or hypothalamic injury-associated obesity, including craniopharyngioma-associated obesity; or severe obesity in the general population;
- our ability to overcome the partial clinical hold placed on our clinical trials of beloranib under our Investigational New Drug application, or IND, and resume clinical development of beloranib;
- our ability to advance our earlier-stage product candidates and successfully complete clinical trials;
- regulatory and political developments in the United States and foreign countries;
- the performance of our third-party manufacturers and clinical research organizations;
- our ability to obtain and maintain intellectual property protection for our proprietary assets;
- the size of the potential markets for beloranib and our ability to serve those markets;
- the rate and degree of market acceptance of beloranib for any indication once approved;
- our ability to obtain additional financing when needed;
- the success of competing products that are or become available for the indications that we are pursuing;
- the loss of key scientific or management personnel; and
- other risks and uncertainties, including those listed under Part II, Item 1A. Risk Factors.

Any forward-looking statements in this Quarterly Report on Form 10-Q reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under Part II, Item 1A. Risk Factors and elsewhere in this Quarterly Report on Form 10-Q. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Quarterly Report on Form 10-Q also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

Zafgen, Inc.

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

Zafgen, Inc.

Condensed Consolidated Balance Sheets
(In thousands, except share and per share data)
(Unaudited)

	September 30, 2015	December 31, 2014
Assets		
Current assets:		
Cash and cash equivalents	$ 38,763	$ 58,103
Marketable securities	165,191	57,359
Tax incentive receivable	334	391
Prepaid expenses and other current assets	1,802	1,345
Total current assets	206,090	117,198
Property and equipment, net	303	79
Tax incentive receivable	975	—
Other assets	79	242
Total assets	$ 207,447	$ 117,519
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 4,151	$ 2,348
Accrued expenses	6,556	3,172
Notes payable, current	2,877	1,381
Total current liabilities	13,584	6,901
Notes payable, net of discount, long-term	4,162	6,177
Total liabilities	17,746	13,078
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock; $0.001 par value; 5,000,000 shares authorized at September 30, 2015 and December 31, 2014; no shares issued and outstanding at September 30, 2015 and December 31, 2014	—	—
Common stock, $0.001 par value; 115,000,000 shares authorized at September 30, 2015 and December 31, 2014; 27,233,574 and 22,879,160 shares issued and outstanding at September 30, 2015 and December 31, 2014, respectively	27	23
Additional paid-in capital	346,203	209,838
Accumulated deficit	(156,497)	(105,385)
Accumulated other comprehensive loss	(32)	(35)
Total stockholders' equity	189,701	104,441
Total liabilities and stockholders' equity	$ 207,447	$ 117,519

The accompanying notes are an integral part of these condensed consolidated financial statements.

Zafgen, Inc.

Condensed Consolidated Statements of Operations and Comprehensive Loss
(In thousands, except share and per share data)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2015	2014	2015	2014
Revenue	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	14,171	12,076	36,912	20,046
General and administrative	5,546	2,285	13,655	4,822
Total operating expenses	19,717	14,361	50,567	24,868
Loss from operations	(19,717)	(14,361)	(50,567)	(24,868)
Other income (expense):				
Interest income	143	1	245	2
Interest expense	(200)	(213)	(626)	(658)
Foreign currency transaction gains (losses), net	(110)	(116)	(164)	(23)
Total other income (expense), net	(167)	(328)	(545)	(679)
Net loss	(19,884)	(14,689)	(51,112)	(25,547)
Accretion of redeemable convertible preferred stock to redemption value	—	—	—	(92)
Net loss attributable to common stockholders	$ (19,884)	$ (14,689)	$ (51,112)	$ (25,639)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.73)	$ (0.65)	$ (1.92)	$ (2.97)
Weighted average common shares outstanding, basic and diluted	27,138,667	22,707,012	26,593,646	8,618,793
Comprehensive loss:				
Net loss	$ (19,884)	$ (14,689)	$ (51,112)	$ (25,547)
Other comprehensive gain (loss):				
Unrealized gain (loss) on marketable securities	29	—	4	—
Total other comprehensive gain (loss)	29	—	4	—
Total comprehensive loss	$ (19,855)	$ (14,689)	$ (51,108)	$ (25,547)

The accompanying notes are an integral part of these condensed consolidated financial statements.

Zafgen, Inc.

Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2015	2014
Cash flows from operating activities:		
Net loss	$ (51,112)	$ (25,547)
Adjustments to reconcile net loss to net cash used in operating activities		
Stock-based compensation expense	5,837	910
Non-cash interest expense	48	36
Depreciation expense	27	10
Unrealized foreign currency transaction losses (gains)	145	31
Premium on purchases of marketable securities, net	(1,142)	—
Amortization of premium on marketable securities	756	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(546)	(997)
Tax incentive receivable	(1,063)	368
Accounts payable	1,841	(416)
Accrued expenses	3,599	9,078
Net cash used in operating activities	(41,610)	(16,527)
Cash flows from investing activities:		
Proceeds from maturities of marketable securities	139,417	—
Purchases of marketable securities	(246,771)	—
Purchases of property and equipment	(224)	(42)
Deposits for leased property	—	(57)
Net cash used in investing activities	(107,578)	(99)
Cash flows from financing activities:		
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs	—	442
Proceeds from issuance of notes payable, net of issuance costs	—	7,386
Payments of debt offering costs	—	(49)
Repayments of notes payable	(684)	—
Proceeds from public offerings, net of commissions and underwriting discounts	129,571	102,672
Payments of public offering costs	—	(2,312)
Proceeds from exercise of common stock options and employee stock purchase plan	961	—
Net cash provided by financing activities	129,848	108,139
Net (decrease) increase in cash and cash equivalents	(19,340)	91,513
Cash and cash equivalents at beginning of period	58,103	35,517
Cash and cash equivalents at end of period	$ 38,763	$127,030
Supplemental disclosure of non-cash investing and financing activities:		
Accretion of redeemable convertible preferred stock to redemption values	$ —	$ 92
Property and equipment included in accounts payable	$ 27	$ —
Conversion of redeemable preferred stock to common stock	$ —	$104,331
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 447	$ 480

The accompanying notes are an integral part of these condensed consolidated financial statements.

Zafgen, Inc.

Notes to the Condensed Consolidated Financial Statements
(Amounts in thousands, except share and per share data)
(Unaudited)

1. Nature of the Business and Basis of Presentation

Zafgen, Inc. (the "Company") was incorporated on November 22, 2005 under the laws of the State of Delaware. The Company is a biopharmaceutical company dedicated to significantly improving the health and well-being of patients affected by obesity and complex metabolic disorders. Zafgen is focused on developing novel therapeutics that treat the underlying biological mechanisms through the methionine aminopeptidase 2 ("MetAP2") pathway. Beloranib, the Company's lead product candidate, is a novel, first-in-class, twice-weekly subcutaneous injection being developed for the treatment of multiple indications, including severe obesity in two rare diseases, Prader-Willi syndrome and obesity caused by hypothalamic injury, including craniopharyngioma-associated obesity; and severe obesity in the general population. Zafgen is also developing ZGN-839, a liver-targeted MetAP2 inhibitor, for the treatment of nonalcoholic steatohepatitis ("NASH") and abdominal obesity, as well as other second-generation MetAP2 inhibitors. Since its inception, the Company has devoted substantially all of its efforts to research and development, recruiting management, acquiring operating assets and raising capital.

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. Product candidates currently under development will require significant additional research and development efforts, including extensive pre-clinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel infrastructure, and extensive compliance-reporting capabilities.

The Company's product candidates are all in the development stage. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies. In addition, the Company is dependent upon the services of its employees and consultants.

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries Zafgen Securities Corporation, Zafgen Australia Pty Limited, and Zafgen Animal Health, LLC. All significant intercompany balances and transactions have been eliminated.

On June 24, 2014, the Company completed an initial public offering ("IPO") of its common stock, which resulted in the sale of 6,900,000 shares at a price of $16.00 per share. The Company received net proceeds from the IPO of approximately $102,672 based upon the price of $16.00 per share after deducting underwriting discounts and commissions paid by the Company. The Company also incurred offering costs of $2,508 related to the IPO.

On January 28, 2015, the Company completed a follow-on offering of its common stock, which resulted in the sale of 3,942,200 shares at a price of $35.00 per share. The Company received net proceeds from the follow-on offering of $130,044 based upon the price of $35.00 per share after deducting underwriting discounts and commissions. The Company also incurred offering costs of $473 related to the follow-on offering.

Unaudited Interim Financial Information

The condensed consolidated balance sheet at December 31, 2014 was derived from the Company's audited financial statements, but does not include all disclosures required by generally accepted accounting principles, or GAAP. The accompanying unaudited condensed consolidated financial statements as of September 30, 2015 and for the three and nine months ended September 30, 2015 and 2014, have been prepared by the Company, pursuant to the rules and regulations of the Securities and Exchange Commission, or SEC for interim financial statements. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. However, the Company believes that the disclosures are adequate to make the information presented not misleading. These condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and the notes thereto for the year ended December 31, 2014, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2014, on file with the SEC. In the opinion of management, all adjustments, consisting only of normal recurring adjustments necessary for a fair presentation

of the Company's condensed consolidated financial position as of September 30, 2015 and condensed consolidated results of operations and cash flows for the three and nine months ended September 30, 2015 and 2014 have been made. The results of operations for the three and nine months ended September 30, 2015 are not necessarily indicative of the results of operations that may be expected for the year ending December 31, 2015.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of expenses during the reporting periods. Significant estimates, assumptions and judgments reflected in these condensed consolidated financial statements include, but are not limited to, the accrual of research and development expenses, the valuation of common stock prior to the IPO and the valuation of stock-based awards. Estimates are periodically reviewed in light of changes in circumstances, facts and experience. Actual results could differ from the Company's estimates.

Fair Value Measurements

The following tables present information about the Company's financial assets that have been measured at fair value at September 30, 2015 and December 31, 2014, and indicate the fair value of the hierarchy of the valuation inputs utilized to determine such fair value. In general, fair values determined by Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets or liabilities. Fair value determined by Level 2 inputs utilize observable inputs other than Level 1 prices, such as quoted prices, for similar assets or liabilities, quoted market prices in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities. Fair values determined by Level 3 inputs are unobservable data points for the asset or liability, and includes situations where there is little, if any, market activity for the asset or liability.

The following tables summarize the Company's cash equivalents and marketable securities as of September 30, 2015 and December 31, 2014:

	September 30, 2015			
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents:				
Money market funds	$ 21,812	$21,812	$ —	$ —
Commercial paper	6,499	—	6,499	—
Corporate bonds	1,254	—	1,254	—
Total cash equivalents	29,565	21,812	7,753	—
Marketable securities:				
Corporate bonds	121,220	—	121,220	—
Commercial paper	32,968	—	32,968	
U.S. government securities	11,003	—	11,003	—
Total marketable securities	165,191	—	165,191	—
Total cash equivalents and marketable securities	$194,756	$21,812	$ 172,944	$ —

	December 31, 2014			
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents:				
Money market funds	$14,742	$14,742	$ —	$ —
U.S. government securities	27,767	—	27,767	—
Total cash equivalents	42,509	14,742	27,767	—
Marketable securities:				
U.S. government securities	34,191	—	34,191	—
Corporate bonds	22,168	—	22,168	—
Commercial paper	1,000	—	1,000	—
Total marketable securities	57,359	—	57,359	—
Total cash equivalents and marketable securities	$99,868	$14,742	$ 85,126	$ —

During the three and nine months ended September 30, 2015, there were no transfers between Level 1 and Level 2 financial assets. The carrying amounts reflected in the condensed consolidated balance sheets for tax incentive receivable, accounts payable, and accrued expenses approximate fair value due to their short-term maturities. The carrying value of the Company's outstanding notes payable approximates fair value (a Level 2 fair value measurement), reflecting discount rates currently available to the Company.

Marketable Securities

The following tables summarize the Company's marketable securities as of September 30, 2015 and December 31, 2014:

	September 30, 2015			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Assets:				
Corporate bonds (due within 1 year)	$107,034	$ —	$ (36)	$106,998
Corporate bonds (due after 1 year through 2 years)	14,216	6	—	14,222
Commercial paper (due within 1 year)	32,970	—	(2)	32,968
U.S. government securities (due within 1 year)	11,003	—	—	11,003
	$165,223	$ 6	$ (38)	$165,191

	December 31, 2014			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Assets:				
U.S. government securities (due within 1 year)	$ 34,200	$ —	$ (9)	$ 34,191
Corporate bonds (due within 1 year)	18,716	—	(18)	18,698
Corporate bonds (due after 1 year through 2 years)	3,478	—	(8)	3,470
Commercial paper (due within 1 year)	1,000	—	—	1,000
	$ 57,394	$ —	$ (35)	$ 57,359

Income (Loss) Per Share

Upon the closing of the Company's IPO in June 2014, all of the Company's outstanding redeemable convertible preferred shares were converted into shares of common stock. Prior to this conversion, the Company followed the two-class method when computing net income (loss) per share as the Company had issued shares that meet the definition of participating securities. The two-class method determines net income (loss) per share for each class of common and participating securities according to dividends

declared or accumulated and participation rights in undistributed earnings. The two-class method requires income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed. The Company's redeemable convertible preferred shares contractually entitled the holders of such shares to participate in dividends, but did not contractually require the holders of such shares to participate in losses of the Company. Accordingly, the two-class method did not apply for periods in which the Company reported a net loss or a net loss attributable to common stockholders resulting from dividends or accretion related to its redeemable convertible preferred shares.

Basic net income (loss) per share attributable to common stockholders is computed by dividing the net income (loss) attributable to common stockholders by the weighted average number of common shares outstanding for the period. Diluted net income (loss) per share attributable to common stockholders is computed by dividing the diluted net income (loss) attributable to common stockholders by the weighted average number of common shares outstanding, including potential dilutive common shares assuming the dilutive effect of outstanding stock options and unvested restricted common shares, as determined using the treasury stock method. For periods in which the Company has reported net losses, diluted net loss per common share attributable to common stockholders is the same as basic net loss per common share attributable to common stockholders, since dilutive common shares are not assumed to have been issued if their effect is antidilutive.

The Company reported a net loss attributable to common stockholders for the three and nine months ended September 30, 2015 and 2014.

Basic and diluted net loss per share attributable to common stockholders was calculated as follows:

	For the three months ended September 30,		For the nine months ended September 30,	
	2015	2014	2015	2014
Basic and diluted net loss per share attributable to common stockholders:				
Numerator:				
Net loss	$ (19,884)	$ (14,689)	$ (51,112)	$ (25,547)
Accretion of redeemable convertible preferred stock to redemption value	—	—	—	(92)
Net loss attributable to common stockholders	$ (19,884)	$ (14,689)	$ (51,112)	$ (25,639)
Denominator:				
Weighted average of common shares outstanding, basic and diluted	27,138,667	22,707,012	26,593,646	8,618,793
Net loss per share attributable to common stockholders, basic and diluted	$ (0.73)	$ (0.65)	$ (1.92)	$ (2.97)

The following common stock equivalents outstanding (prior to consideration of the treasury stock method) as of September 30, 2015 and 2014, were excluded from the computation of diluted net loss per share for the three and nine months ended September 30, 2015 and 2014, because they had an anti-dilutive impact:

	As of September 30,	
	2015	2014
Options to purchase common stock	2,574,132	1,839,895
Unvested restricted stock	1,935	—
	2,576,067	1,839,895

Recently Issued and Adopted Accounting Pronouncements

In August 2014, the Financial Accounting Standards Board issued Accounting Standards Update No. 2014-15, Presentation of Financial Statements — Going Concern (Subtopic 205-40). The new guidance addresses management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. Management's evaluation should be based on relevant conditions and events that are known and reasonably knowable at the date that the financial statements are issued. The standard will be effective for the first interim period within annual reporting periods beginning after December 15, 2016. Early adoption is permitted. The Company is evaluating the effect that this guidance will have on its condensed consolidated financial statements.

3. Accrued Expenses

Accrued expenses consisted of the following:

	September 30, 2015	December 31, 2014
Accrued research and development expenses	$ 3,808	$ 1,180
Accrued payroll and related expenses	1,924	1,239
Accrued professional fees	705	585
Accrued other	119	168
	$ 6,556	$ 3,172

4. Notes Payable

The Company has outstanding amounts due under a loan and security agreement with Oxford Finance LLC and Midcap Financial (the "Credit Facility") entered into in March 2014. All promissory notes issued under the Credit Facility are collateralized by substantially all of the Company's personal property, other than intellectual property. There are no financial covenants associated with the Credit Facility; however, there are negative covenants restricting the Company's activities, including limitations on dispositions, mergers or acquisitions; encumbering or granting a security interest in the Company's intellectual property; incurring indebtedness or liens; paying dividends; making certain investments; and certain other business transactions. As of September 30, 2015 and December 31, 2014, notes payable consist of the following:

	September 30, 2015	December 31, 2014
Notes payable	$ 6,816	$ 7,500
Less: current portion	(2,877)	(1,381)
Notes payable, net of current portion	3,939	6,119
Debt discount, net of accretion	(46)	(79)
Accretion related to final payment	269	137
Notes payable, net of discount, long term	$ 4,162	$ 6,177

As of September 30, 2015, estimated future principal payments due are as follows:

Years Ending December 31,	
2015	$ 697
2016	2,936
2017	3,183
	$6,816

During the three months ended September 30, 2015 and 2014, the Company recognized $200 and $213, respectively, of interest expense related to the Credit Facility. During the nine months ended September 30, 2015 and 2014, the Company recognized $626 and $658, respectively, of interest expense related to the Credit Facility. The effective annual interest rate of the outstanding debt under the Credit Facility is approximately 14%.

5. Stockholders' Equity

In January 2015, the Company completed a follow-on offering resulting in the sale of 3,942,200 common shares at $35.00 per share, including 514,200 shares related to the exercise of the over-allotment option by the underwriters. The Company received net proceeds from the follow-on offering of $130,044 based upon the price of $35.00 per share after deducting underwriting discounts and commissions. The Company also incurred offering costs of $473 related to the follow-on offering.

6. Stock-Based Awards

The Company grants equity awards under its 2014 Stock Option and Incentive Plan and is authorized to issue common stock under its 2014 Employee Stock Purchase Plan. The Company also has outstanding stock-based awards under its Amended and Restated 2006 Stock Option Plan but is no longer granting awards under this plan. As of September 30, 2015, 1,615,599 shares are available for grant under the 2014 Stock Option and Incentive Plan, including 915,166 shares automatically added to the 2014 Stock Option and Incentive Plan on January 1, 2015 as a result of a provision in the plan, and 257,460 shares are available for issuance to participating employees under the 2014 Employee Stock Purchase Plan. The Company recorded stock-based compensation expense related to stock options and restricted common stock in the following expense categories of its condensed consolidated statements of operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2015	2014	2015	2014
Research and development	$ 895	$ 91	$ 2,037	$ 259
General and administrative	1,946	375	3,800	651
	$ 2,841	$ 466	$ 5,837	$ 910

For the nine months ended September 30, 2015, the Company granted 968,298 stock options; 964,298 stock options to employees and directors and 4,000 stock options to a consultant.

As of September 30, 2015, the Company had an aggregate of $31,069 of unrecognized stock-based compensation cost, which is expected to be recognized over a weighted average period of 3.1 years. As of September 30, 2015, there were outstanding unvested service-based stock options held by nonemployees for the purchase of 11,458 shares of common stock.

7. Commitments and Contingencies

Leases

The Company has a lease for office space in Boston, Massachusetts, effective as of July 28, 2014, with a term expiring July 31, 2017 and an option to extend the lease for three additional years. In March 2015, the Company entered into an operating lease for additional office space in Boston, Massachusetts, effective as of April 15, 2015, with a term expiring on July 31, 2017, and two options to extend the lease for three additional years each.

Future minimum lease payments for its operating lease as of September 30, 2015 are as follows:

Years Ending December 31,	
2015	$107
2016	335
2017	199
	$641

During the three months ended September 30, 2015 and 2014, the Company recognized $83 and $52, respectively, of rental expense related to office space. During the nine months ended September 30, 2015 and 2014, the Company recognized $220 and $104, respectively, of rental expense related to office space.

Intellectual Property Licenses

The Company has acquired exclusive rights to develop patented compounds and related know-how for beloranib under licensing agreements with two third parties in the course of its research and development activities. The licensing rights obligate the Company to make payments to the licensors for license fees, milestones, license maintenance fees and royalties. The Company is also responsible for patent prosecution costs.

As of September 30, 2015, the Company is obligated to make milestone payments of up to $12,250 upon reaching certain pre-commercialization milestones, such government approvals (including the U.S. Food and Drug Administration, or FDA, approval of a New Drug Application, or NDA), and up to $12,500 upon reaching certain product commercialization milestones. Under one of the license agreements, the Company is also obligated to pay up to $1,250 with respect to each subsequent licensed product, if any, that is a new chemical entity. In addition, the Company will owe single-digit royalties on sales of commercial products developed using these licensed technologies, if any. The Company is also obligated to pay to the licensors a percentage of fees received if and when the Company sublicenses the technology. As of September 30, 2015, the Company has not yet developed a commercial product using the licensed technologies and it has not entered into any sublicense agreements for the technologies.

Indemnification Agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, business partners, and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with members of its board of directors that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is, in many cases, unlimited. To date, the Company has not incurred any material costs as a result of such indemnifications. The Company does not believe that the outcome of any claims under indemnification arrangements will have a material effect on its financial position, results of operations or cash flows, and it has not accrued any liabilities related to such obligations in its condensed consolidated financial statements as of September 30, 2015.

8. Retirement Plan

The Company has a Savings Incentive Match Plan for employees. Under the terms of the plan, the Company contributes 2% of an employee's annual base salary, up to a maximum of the annual Internal Revenue Service compensation limits, for all full-time employees.

During the three months ended September 30, 2015 and 2014, the Company recognized $32 and $17, respectively, of expense related to its contributions to this plan. During the nine months ended September 30, 2015 and 2014, the Company recognized $111 and $43, respectively, of expense related to its contributions to this plan.

9. Australia Research and Development Tax Incentive

The Company's wholly owned subsidiary, Zafgen Australia Pty Limited, which conducts core research and development activities on behalf of the Company is eligible to receive a 45% refundable tax incentive for qualified research and development activities. For the three months ended September 30, 2015 and 2014, $376 and $91, respectively, was recorded as a reduction to research and development expenses in the condensed consolidated statements of operations. For the nine months ended September 30, 2015 and 2014, $1,063 and $164, respectively, was recorded as a reduction to research and development expenses in the condensed consolidated statements of operations. These amounts represented 45% of the Company's qualified research and development spending in Australia. The refund is denominated in Australian dollars and, therefore, the receivable is re-measured into U.S. dollars as of each reporting date. For the three months ended September 30, 2015 and 2014, the Company recorded in its condensed consolidated statements of operations unrealized foreign currency exchange gains (losses) of $(107) and $(95), respectively, related to this tax incentive receivable. For the nine months ended September 30, 2015 and 2014, the Company recorded in its condensed consolidated statements of operations unrealized foreign currency exchange gains (losses) of $(145) and $(31), respectively, related to this tax incentive receivable. As of September 30, 2015 and December 31, 2014, the Company's tax incentive receivable from the Australian government was $1,309 and $391, respectively.

10. Subsequent Event

On October 21, 2015, a purported stockholder of the Company filed a putative class action lawsuit in the U.S. District Court for the District of Massachusetts, against the Company and Thomas E. Hughes, entitled *Aviad Bessler v. Zafgen, Inc. and Thomas E. Hughes,* No. 1:15-cv-13618. The lawsuit alleges violations of Sections 10(b), 20(a) and Rule 10b-5 of the Securities Exchange Act of

1934 by making allegedly false and misleading statements and omissions about the Company's clinical trials for its drug beloranib. The lawsuit seeks, among other things, compensatory damages in connection with the Company's allegedly inflated stock price between January 12, 2015 and October 16, 2015 as a result of those allegedly false and misleading statements, as well as punitive damages, interest, attorneys' fees and costs. The Company is currently unable to assess the probability of loss or estimate a range of potential loss, if any, associated with this lawsuit because it is at an early stage.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto and management's discussion and analysis of financial condition and results of operations for the year ended December 31, 2014 included in our Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 25, 2015. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Quarterly Report on Form 10-Q, our actual results could differ materially from the results described, in or implied, by these forward-looking statements.

Our actual results and timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Quarterly Report on Form 10-Q. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Quarterly Report on Form 10-Q, they may not be predictive of results or developments in future periods.

The following information and any forward-looking statements should be considered in light of factors discussed elsewhere in this Quarterly Report on Form 10-Q, including those risks identified under the Risk Factors section.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Overview

We are a biopharmaceutical company dedicated to significantly improving the health and well-being of patients affected by obesity and complex metabolic disorders. Beloranib, our lead product candidate, is a novel, first-in-class, twice-weekly subcutaneous injection being developed for the treatment of multiple indications, including severe obesity in two rare diseases, Prader-Willi syndrome, or PWS, and hypothalamic injury-associated obesity, or HIAO, including craniopharyngioma-associated obesity; and severe obesity in the general population. We are also developing ZGN-839, a liver-targeted methionine aminopeptidase 2, or MetAP2, inhibitor, for the treatment of nonalcoholic steatohepatitis, or NASH, and abdominal obesity, as well as other second-generation MetAP2 inhibitors.

Obesity is a complex medical disorder involving appetite dysregulation and altered lipid and energy metabolism that results in excessive accumulation of fat tissue. Weight loss and hunger control are urgently needed for certain subpopulations of obese patients, in which obesity is life-threatening and a co-morbidity of an underlying condition such as PWS and HIAO that, while rare, occurs most commonly as a consequence of treatment for craniopharyngioma and other mid-brain tumors. PWS and HIAO are characterized by severe and intractable obesity resulting from damage to or impaired functioning of the hypothalamus, an area of the brain responsible for many functions including the neurophysiological drive to eat.

In late-September 2015, we learned of a patient death in the ongoing Phase 3 clinical trial of beloranib in patients with PWS but at that time did not know whether the patient's treatment assignment was beloranib. In October 2015, we learned that the patient was receiving beloranib after the patient's treatment assignment was unblinded per the request of the U.S. Food and Drug Administration, or FDA, and, on October 15, 2015, we received notice from the FDA that the Investigational New Drug Application, or IND, for beloranib has been placed on a partial clinical hold. Subsequently, we received the patient's death certificate and learned that the cause of death was determined to be respiratory failure as a consequence of pulmonary emboli. However, it is not known if this event was related to treatment with beloranib. After review of our ongoing clinical trials, we elected to proceed with efficacy and safety data analysis and close the randomized portion of our Phase 3 ZAF-311 clinical trial of beloranib in patients with PWS and our Phase 2b ZAF-203 clinical trial of beloranib in patients with severe obesity complicated by type 2 diabetes. We believe that a sufficient number of patients have completed randomized treatment in both clinical trials to assess the efficacy of beloranib and help inform next steps for the beloranib program. Following the partial clinical hold, we believe we can best preserve the integrity of the data in each clinical trial by closing the randomized portion of the clinical trials early.

Since our inception in November 2005, we have devoted substantially all of our resources to developing beloranib, ZGN-839, and second-generation MetAP2 inhibitors, building our intellectual property portfolio, developing our supply chain, business planning, raising capital, and providing general and administrative support for these operations. Prior to our initial public offering, or IPO, in June 2014, we funded our operations primarily through sales of redeemable convertible preferred stock and, to a lesser extent, through the issuances of convertible promissory notes. From our inception through December 31, 2014, we have received gross proceeds of $104.0 million from such transactions. During June 2014, we completed our IPO with net proceeds of $102.7 million after deducting underwriting discounts and commissions paid by us. We also incurred offering costs of $2.5 million related to the IPO.

On January 28, 2015, we completed a follow-on offering of our common stock, which resulted in the sale of 3,942,200 shares at a price of $35.00 per share. We received net proceeds from the follow-on offering of $130.0 million based upon the price of $35.00 per share and after deducting underwriting discounts and commissions. We also incurred offering costs of $0.5 million related to the follow-on offering.

We have never generated any revenue and have incurred net losses in each year since our inception. We have an accumulated deficit of $156.5 million as of September 30, 2015. Our net loss was $51.1 million for the nine months ended September 30, 2015 and $36.5 million for the year ended December 31, 2014. These losses have resulted principally from costs incurred in connection with in-licensing our product candidates, research and development activities and general and administrative costs associated with our operations. We expect to incur significant expenses and increasing operating losses for the foreseeable future.

We expect that our expenses will increase substantially in connection with our ongoing activities, as we:

- advance the clinical development of beloranib as a treatment for obesity and hyperphagia in patients with PWS through our Phase 3 clinical trials;
- advance the clinical development of beloranib as a treatment for patients with HIAO;
- conduct activities needed to meet requirements that will allow the FDA to remove the partial clinical hold on our IND for beloranib;
- initiate IND enabling studies and clinical development of ZGN-839 and our second-generation MetAP2 inhibitors;
- complete the Phase 2b ZAF-203 clinical trial of beloranib as a treatment for severe obesity complicated by type 2 diabetes;
- seek to identify additional indications for beloranib and our other product candidates;
- seek to obtain regulatory approvals for our product candidates;
- add operational, financial and management information systems;
- add personnel, including personnel to support our product development and future commercialization; and
- maintain, leverage and expand our intellectual property portfolio.

As a result, we will need additional financing to support our continuing operations. Until such time that we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Arrangements with collaborators or others may require us to relinquish rights to certain of our technologies or product candidates. In addition, we may never successfully complete development of any of our product candidates, obtain adequate patent protection for our technology, obtain necessary regulatory approval for our product candidates or achieve commercial viability for any approved product candidates. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

We expect that our existing cash, cash equivalents and marketable securities as of September 30, 2015 will enable us to fund our operating expenses and capital expenditure requirements for at least the next 18 months. See “Liquidity and Capital Resources.”

Financial Operations Overview

Revenue

We have not generated any revenue from product sales since our inception, and do not expect to generate any revenue from the sale of products in the near future. If our development efforts result in clinical success and regulatory approval or collaboration agreements with third parties for our product candidates, we may generate revenue from those product candidates.

Operating Expenses

The majority of our operating expenses since inception have consisted of in-licensing costs of our product candidate beloranib, research and development activities, and general and administrative costs.

Research and Development Expenses

Research and development expenses, which consist primarily of costs associated with our product research and development efforts, are expensed as incurred. Research and development expenses consist primarily of:

- personnel costs, including salaries, related benefits and stock-based compensation for employees engaged in scientific research and development functions;
- third-party contract costs relating to research, formulation, manufacturing, pre-clinical studies and clinical trial activities;
- external costs of outside consultants;
- payments made under our third-party licensing agreements;
- laboratory consumables; and
- allocated facility-related costs.

We have been developing beloranib, ZGN-839, and our second-generation MetAP2 inhibitors, and typically use our employee, consultant and infrastructure resources across our development programs. We track outsourced development costs by product candidate or development program, but we do not allocate personnel costs, external consultant costs, payments made under our licensing agreements or other internal costs to specific development programs or product candidates unless the payments are specifically identifiable to a development program or product candidate. We record our research and development expenses net of any research and development tax incentives we are entitled to receive from government authorities.

Research and development activities are central to our business. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase in the foreseeable future as we pursue later stages of clinical development of our product candidates.

We cannot determine with certainty the duration and completion costs of the current or future clinical trials of our product candidates or if, when, or to what extent we will generate revenue from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs, and timing of clinical trials and development of our product candidates will depend on a variety of factors, including:

- the scope, rate of progress, and expense of our ongoing as well as any additional clinical trials and other research and development activities;
- future clinical trial results;
- uncertainties in clinical trial enrollment rate or design;
- significant and changing government regulation;
- the timing and receipt of any regulatory approvals; and
- the FDA's or other regulatory authority's influence on trial design.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA, or another regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs, consisting of salaries, related benefits and stock-based compensation, of our executive, finance, commercial, business and corporate development and other administrative functions. General and administrative expenses also include travel expenses, allocated facility-related costs not otherwise included in research and development expenses, insurance expenses, and professional fees for auditing, tax and legal services, including legal expenses to pursue patent protection of our intellectual property.

We expect that general and administrative expenses will increase in the future as we expand our operating activities and incur additional costs associated with operating as a public company. These increases will likely include additional costs related to personnel; legal, accounting and audit services; directors' and officers' liability insurance premiums; and investor relations. In addition, if we obtain marketing approval for beloranib, we will incur significant sales and marketing expenses.

Other Income (Expense)

Interest income. Interest income consists of interest earned on our cash equivalents and marketable securities. Our interest income has not been significant due to low interest earned on invested balances. We anticipate that our interest income will decrease as we incur operating losses.

Interest expense. Interest expense relates to outstanding borrowings under a credit facility that we entered into on March 31, 2014, consisting of the stated interest of 8.1% per year due on outstanding borrowings, a final payment of 6% of amounts drawn down that is being recorded as interest expense over the term through the maturity date using the effective-interest method, the amortization of deferred financing costs, the accretion of debt discount relating to the credit facility, and a fee which was paid to the lender upon the completion of our IPO.

Foreign currency transaction gains (losses), net. Foreign currency transaction gains (losses), net consists of the realized and unrealized gains and losses from foreign currency-denominated cash balances, vendor payables and tax-related receivables from the Australian government. We currently do not engage in hedging activities related to our foreign currency-denominated receivables and payables; as such, we cannot predict the impact of future foreign currency transaction gains and losses on our operating results. See "Quantitative and Qualitative Disclosures about Market Risk."

Income Taxes

Since our inception in 2005, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in each year or our earned research and development tax credits, due to our uncertainty of realizing a benefit from those items. As of December 31, 2014, we had federal and state net operating loss carryforwards of $17.0 million and $9.6 million, respectively. Our federal net operating loss carryforwards begin to expire in 2026 and our state net operating loss carryforwards begin to expire in 2030. We also had federal and state research and development tax credit carryforwards of $7.7 million and $1.9 million, respectively, as of December 31, 2014, which begin to expire in 2026 and 2021, respectively.

Results of Operations

Comparison of Three Months Ended September 30, 2015 and 2014

The following table summarizes our results of operations for the three months ended September 30, 2015 and 2014:

	Three Months Ended September 30,		
	2015	2014	Change
	(in thousands)		
Statement of Operations Data:			
Revenue	$ —	$ —	$ —
Operating expenses:			
Research and development	14,171	12,076	2,095
General and administrative	5,546	2,285	3,261
Total operating expenses	19,717	14,361	5,356
Loss from operations	(19,717)	(14,361)	(5,356)
Other income (expense):			
Interest income	143	1	142
Interest expense	(200)	(213)	13
Foreign currency transaction gains (losses), net	(110)	(116)	6
Total other income (expense), net	(167)	(328)	161
Net loss	$ (19,884)	$ (14,689)	$(5,195)

Research and development expenses

	Three Months Ended September 30,		
	2015	2014	Change
	(in thousands)		
Direct research and development expenses by program:			
Beloranib:			
Pre-clinical and manufacturing	$ 2,360	$ 2,443	$ (83)
Clinical trials	5,453	1,336	4,117
Licensing, milestone and license maintenance fees	—	6,700	(6,700)
Subtotal	7,813	10,479	(2,666)
ZGN-839 and second-generation MetAP2 inhibitors	2,392	158	2,234
Subtotal	10,205	10,637	(432)
Unallocated expenses:			
Personnel related	2,463	794	1,669
Consultants	969	519	450
Other	534	126	408
Subtotal	3,966	1,439	2,527
Total research and development expenses	$ 14,171	$ 12,076	$ 2,095

Research and development expenses for the three months ended September 30, 2015 increased $2.1 million compared to the three months ended September 30, 2014. The increase was primarily due to a $2.5 million increase in our unallocated expenses and a $2.2 million increase associated with ZGN-839 and our second-generation MetAP2 inhibitors. Of the $2.5 million increase in our unallocated expenses, personnel related costs increased by $1.7 million period over period of which salary-related expenses increased $0.9 million and stock-based compensation expense increased $0.8 million as a result of the hiring of new employees to support our development efforts. Between October 1, 2014 and September 30, 2015, we hired 16 new employees in research and development. Costs related to ZGN-839 and second-generation MetAP2 inhibitors increased as a result of our increased focus on our early-stage programs in 2015, including work in chemistry, toxicology, pharmacology and contract manufacturing costs. Offsetting these increases was an overall decrease of $2.7 million in our beloranib program. This decrease was driven by a $6.7 million decrease in licensing, milestone and license maintenance fees due to the prior year achievement of a milestone related to the initiation of our U.S. Phase 3 clinical trial in beloranib, which we initiated in September 2014, partially offset by an increase of $4.1 million in our beloranib clinical trial costs. During the three months ended September 30, 2015, we had two ongoing clinical trials, our Phase 2b trial in patients with severe obesity complicated by type 2 diabetes with a total of 152 patients (achieving full enrollment in August 2015)

and our U.S. Phase 3 trial in patients with PWS with a total of 108 patients (achieved full enrollment in May 2015). During the three months ended September 30, 2014, we had two ongoing clinical trials, however the number of patients varied greatly; our Phase 2a trial in patients with obesity caused by injury to the hypothalamus had a total of 14 patients and our U.S. Phase 3 trial in patients with PWS had the first patient dosed in September of 2014. Clinical trial activities undertaken by our Australian subsidiary are recorded net of a 45% research and development tax incentive from the Australian government.

General and administrative expenses

	Three Months Ended September 30,		
	2015	2014	Change
	(in thousands)		
Personnel related	$ 3,083	$ 969	$2,114
Professional and consulting fees	1,862	746	1,116
Travel and other	601	570	31
Total general and administrative expenses	$ 5,546	$ 2,285	$3,261

General and administrative expenses for the three months ended September 30, 2015 increased $3.3 million compared to the three months ended September 30, 2014. The increase was primarily due to increased personnel related costs of $2.1 million and increased professional and consulting fees of $1.1 million period over period. Personnel related costs increased period over period primarily due to hiring additional employees and granting stock-based awards to our new hires and existing employees. Of the increase in personnel related costs, salary-related expenses increased $0.5 million and stock-based compensation expense increased $1.6 million. The increase in stock-based compensation expense was due to granting additional stock-based awards as well as an increase in the value of the awards. Between October 1, 2014 and September 30, 2015, we hired eight new employees in general and administrative roles. Professional and consulting fees increased primarily due to costs incurred for commercial-readiness activities related to PWS and increased legal fees.

Other income (expense), net

Interest expense. Interest expense for the three months ended September 30, 2015 and 2014 of $0.2 million was related to interest expense on our outstanding borrowings under the credit facility that we entered into in March 2014. Interest expense consists primarily of the stated interest of 8.1% per year due on outstanding borrowings. It also includes expense related to the final payment of 6% of amounts drawn down that is being recorded over the term through the maturity date using the effective-interest method and the amortization of deferred financing costs and debt discount relating to the credit facility.

Interest income. Interest income of $0.1 million for the three months ended September 30, 2015 was related to interest earned on our marketable securities balance.

Foreign currency transaction gains (losses), net. Net foreign currency transaction losses for the three months ended September 30, 2015 and 2014 consisted of the realized and unrealized gains and losses from foreign currency-denominated cash balances, vendor payables and tax-related receivables from the Australian government, reflecting the weakening of the Australian dollar relative to the U.S. dollar in both periods.

Comparison of Nine Months Ended September 30, 2015 and 2014

The following table summarizes our results of operations for the nine months ended September 30, 2015 and 2014:

	Nine Months Ended September 30, 2015	2014	Change
		(in thousands)	
Statement of Operations Data:			
Revenue	$ —	$ —	$ —
Operating expenses:			
Research and development	36,912	20,046	16,866
General and administrative	13,655	4,822	8,833
Total operating expenses	50,567	24,868	25,699
Loss from operations	(50,567)	(24,868)	(25,699)
Other income (expense):			
Interest income	245	2	243
Interest expense	(626)	(658)	32
Foreign currency transaction gains (losses), net	(164)	(23)	(141)
Total other income (expense), net	(545)	(679)	134
Net loss	$ (51,112)	$ (25,547)	$(25,565)

Research and development expenses

	Nine Months Ended September 30, 2015	2014	Change
		(in thousands)	
Direct research and development expenses by program:			
Beloranib:			
Pre-clinical and manufacturing	$ 7,219	$ 5,947	$ 1,272
Clinical trials	13,364	2,530	10,834
Licensing, milestone and license maintenance fees	—	6,700	(6,700)
Subtotal	20,583	15,177	5,406
ZGN-839 and second-generation MetAP2 inhibitors	6,552	668	5,884
Subtotal	27,135	15,845	11,290
Unallocated expenses:			
Personnel related	6,294	1,984	4,310
Consultants	2,376	1,929	447
Other	1,107	288	819
Subtotal	9,777	4,201	5,576
Total research and development expenses	$ 36,912	$ 20,046	$16,866

Research and development expenses for the nine months ended September 30, 2015 increased $16.9 million compared to the nine months ended September 30, 2014. The increase was primarily due to increased costs of $5.9 million associated with our ZGN-839 and second-generation MetAP2 inhibitors, $5.6 million in our unallocated expenses and $5.4 million associated with our beloranib program. Costs related to ZGN-839 and second-generation MetAP2 inhibitors increased as a result of our increased focus on our early-stage programs in 2015, including work in chemistry, toxicology, pharmacology and contract manufacturing costs. Unallocated expenses increased period over period primarily due to an increase in personnel related costs of $4.3 million of which salary-related and bonus expenses increased $2.5 million and stock-based compensation expense increased $1.8 million. These increases resulted primarily from an increase in hiring. Between October 1, 2014 and September 30, 2015, we hired 16 new employees in research and development. Other unallocated expenses are also driven by the increase in new hires, primarily travel expenses. Of the increase in our beloranib program, clinical trial expenses for beloranib increased by $10.8 million period over period as a result of timing of our clinical trials in 2015 and 2014. During the nine months ended September 30, 2015, we had two ongoing clinical trials, our Phase 2b trial in patients with severe obesity complicated by type 2 diabetes (which achieved full enrollment of 152 patients in August 2015) and our U.S. Phase 3 trial in patients with PWS (which achieved full enrollment of 108 patients in May 2015). During the nine months ended September 30, 2014, we had two ongoing clinical trials, however the number of patients varied greatly; our Phase 2a trial in patients with obesity caused by injury to the hypothalamus had a total of 14 patients (which achieved full enrollment

in September 2014) and our U.S. Phase 3 trial in patients with PWS which had the first patient dosed in September of 2014. Clinical trial activities undertaken by our Australian subsidiary are recorded net of a 45% research and development tax incentive from the Australian government. Additionally, pre-clinical and manufacturing costs increased by $1.3 million over the prior period primarily as a result of increased costs for toxicology studies required for our planned New Drug Application, or NDA, submission. These increases were partially offset by a decrease of $6.7 million in licensing, milestone and license maintenance fees due to the prior year achievement of a milestone related to the initiation of our Phase 3 clinical trial in beloranib, which we initiated in September 2014.

General and administrative expenses

	Nine Months Ended September 30,		
	2015	2014	Change
	(in thousands)		
Personnel related	$ 6,727	$ 2,157	$4,570
Professional and consulting fees	5,257	1,772	3,485
Travel and other	1,671	893	778
Total general and administrative expenses	$ 13,655	$ 4,822	$8,833

General and administrative expenses for the nine months ended September 30, 2015 increased $8.8 million compared to the nine months ended September 30, 2014. The increase was primarily due to increased personnel related costs of $4.6 million, increased professional and consulting fees of $3.5 million and increased travel and other related costs of $0.8 million period over period. Personnel related costs increased period over period primarily due to hiring additional employees and granting stock-based awards to our new hires and existing employees. Of the increase in personnel related costs, salary-related and bonus expenses increased $1.5 million and stock-based compensation expense increased $3.1 million. The increase in stock-based compensation was due to granting additional stock-based awards as well as an increase in the value of the awards. Between October 1, 2014 and September 30, 2015, we hired eight new employees in general and administrative roles. Professional and consulting fees increased primarily due to increased accounting and legal fees to support our operating as a public company and costs incurred for commercial-readiness activities related to PWS. Travel and other costs increased primarily due to increased insurance expense, travel, and information technology-related expenses to support our operating as a public company.

Other income (expense), net

Interest expense. Interest expense for the nine months ended September 30, 2015 and 2014 of $0.6 million and $0.7 million, respectively, was related to interest expense on our outstanding borrowings under the credit facility that we entered into in March 2014. Interest expense consists primarily of the stated interest of 8.1% per year due on outstanding borrowings. It also includes expense related to the final payment of 6% of amounts drawn down that is being recorded over the term through the maturity date using the effective-interest method and the amortization of deferred financing costs and debt discount relating to the credit facility.

Interest income. Interest income of $0.2 million for the nine months ended September 30, 2015 was related to interest earned on our marketable securities balances.

Foreign currency transaction gains (losses), net. We had foreign currency transaction losses of $0.2 million for the nine months ended September 30, 2015 compared to a small amount of foreign currency transaction losses for the nine months end September 30, 2014. Foreign currency transactions gains and losses consisted of the realized and unrealized gains and losses from foreign currency-denominated cash balances, vendor payables and tax-related receivables from the Australian government, generally reflecting the weakening of the Australian dollar relative to the U.S. dollar.

Liquidity and Capital Resources

As of September 30, 2015 and December 31, 2014, we had cash, cash equivalents and marketable securities totaling $204.0 million and $115.5 million, respectively. We invest our cash in money market funds, U.S. government securities, corporate bonds, and commercial paper, with the primary objectives to preserve principal, provide liquidity and maximize income without significantly increasing risk. Since our inception in November 2005, we have not generated any revenue and have incurred recurring net losses. As of September 30, 2015, we had an accumulated deficit of $156.5 million. From inception to our IPO, we funded our operations primarily through sales of redeemable convertible preferred stock and, to a lesser extent, through the issuances of convertible promissory notes. In June 2014, we completed an IPO of common stock with net proceeds of $100.2 million, after deducting underwriting discounts and commissions, and offering expenses. On January 28, 2015, we completed a follow-on offering of our common stock, which resulted in the sale of 3,942,200 shares at a price of $35.00 per share. We received net proceeds from the follow-on offering of $130.0 million based upon the price of $35.00 per share after deducting underwriting discounts and commissions. We also incurred offering costs of $0.5 million related to the follow-on offering.

On March 31, 2014, we entered into a loan and security agreement, or the 2014 Credit Facility, which provided for initial borrowings of $7.5 million and additional borrowings of up to $12.5 million. On that same date, we received proceeds of $7.5 million from the issuance of promissory notes under a term loan as part of the 2014 Credit Facility. Of the additional $12.5 million of borrowings that was available to us, $7.5 million was available to be drawn down until September 30, 2014 and $5.0 million was available to be drawn down for a 30-day period upon the completion of our IPO that occurred in June 2014. We elected not to draw down the $7.5 million or the $5.0 million and these amounts are no longer available to us. All promissory notes issued under the 2014 Credit Facility are collateralized by substantially all of our personal property, other than our intellectual property. There are no financial covenants associated with the 2014 Credit Facility; however, there are negative covenants restricting our activities, including limitations on dispositions, mergers or acquisitions; encumbering or granting a security interest in our intellectual property; incurring indebtedness or liens; paying dividends; making certain investments; and certain other business transactions.

Upon entering into this 2014 Credit Facility, we were obligated to make monthly, interest-only payments on any term loans funded under the 2014 Credit Facility until December 1, 2014 and, thereafter, to pay 36 consecutive, equal monthly installments of principal and interest from January 1, 2015 through December 1, 2017. As per the terms of the agreement, in June 2014, upon the completion of our IPO, the term of monthly, interest-only payments was extended until June 1, 2015. Outstanding term loans under the 2014 Credit Facility bear interest at an annual rate of 8.1%. In addition, a final payment equal to 6.0% of any amounts drawn under the facility is due upon the earlier of the maturity date, acceleration of the term loans or prepayment of all or part of the term loans. We were also obligated to pay a separate fee upon any initial public offering; a sale of substantially all of our assets; or a merger, reorganization or sale of our voting equity securities where existing voting stockholders hold less than 50% of voting equity securities after such transaction. During the year ended December 31, 2014, we recorded interest expense of $0.2 million relating to the fee paid to the lender upon completion of our IPO.

The following table summarizes our sources and uses of cash for each of the periods presented below:

	Nine Months Ended September 30,	
	2015	2014
	(in thousands)	
Cash used in operating activities	$ (41,610)	$ (16,527)
Cash used in investing activities	(107,578)	(99)
Cash provided by financing activities	129,848	108,139
Net (decrease) increase in cash and cash equivalents	$ (19,340)	$ 91,513

Net cash used in operating activities

During the nine months ended September 30, 2015, operating activities used $41.6 million of cash, primarily resulting from our net loss of $51.1 million, partially offset by cash provided by changes in our operating assets and liabilities of $3.8 million and non-cash charges of $5.7 million. Net cash provided by changes in our operating assets and liabilities during the nine months ended September 30, 2015 consisted primarily of a $5.4 million increase in accounts payable and accrued expenses, partially offset by a $1.1 million increase in our research and development tax incentive receivable from the Australian government and a $0.5 million increase in prepaid expenses and other current assets. Our net non-cash charges during the nine months ended September 30, 2015 consisted primarily of stock-based compensation expense of $5.8 million.

During the nine months ended September 30, 2014, operating activities used $16.5 million of cash, resulting from our net loss of $25.5 million, partially offset by non-cash charges of $1.0 million and net cash provided by changes in our operating assets and liabilities of $8.0 million. Our net non-cash charges during the nine months ended September 30, 2014 consisted primarily of stock-based compensation expense of $0.9 million. Net cash provided by changes in our operating assets and liabilities during the nine months ended September 30, 2014 consisted primarily of a $9.1 million increase in accrued expenses (of which $6.7 million relates to our licensing milestones), partially offset by a $1.0 million increase in prepaid expenses and other current assets.

Our cash used in operating activities is generally affected by the amount of our net loss, changes in operating asset accounts and add-backs of non-cash expense items such as stock-based compensation expense and unrealized foreign currency gains and losses. Our net losses were primarily attributed to research and development activities related to our beloranib, ZGN-839 and second-generation MetAP2 inhibitors programs and our general and administrative expenses, as we had no revenue in the periods. Changes in our operating asset accounts are generally driven by the level of operating activity and timing of payments to our vendors.

Net cash used in investing activities

During the nine months ended September 30, 2015, net cash used in investing activities was $107.6 million. We used $246.8 million to purchase marketable securities, which was partially offset by proceeds from the maturities of marketable securities of $139.4 million. In addition, we used $0.2 million related to purchases of property and equipment.

During the nine months ended September 30, 2014, we used $0.1 million for a security deposit on our office lease as well as some small purchases of property and equipment.

Net cash provided by financing activities

During the nine months ended September 30, 2015, net cash provided by financing activities was $129.8 million as a result of proceeds, net of underwriting discounts and commissions, of $129.6 million from the January 2015 follow-on offering as well as proceeds of $1.0 million from the exercise of common stock options and issuance of common stock pursuant to our employee stock purchase plan, partially offset by $0.7 million of repayments on our notes payable.

During the nine months ended September 30, 2014, net cash provided by financing activities was $108.1 million as a result of proceeds, net of underwriting discounts and commissions, of $102.7 million from our IPO, $7.4 million from the issuance of debt and $0.4 million from issuances of our Series E redeemable convertible preferred stock, partially offset by payments of $2.3 million of deferred offering costs related to our IPO that were paid during the period.

Operating Capital Requirements

Beloranib is still in clinical development and ZGN-839 and our second-generation MetAP2 inhibitors are in pre-clinical development. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We anticipate that our expenses will increase substantially if and as we:

- advance the clinical development of beloranib as a treatment for obesity and hyperphagia in patients with PWS through Phase 3 clinical trials;
- advance the clinical development of beloranib as a treatment for patients with HIAO;
- conduct activities needed to meet requirements that will allow the FDA to remove the partial clinical hold on our IND for beloranib;
- initiate IND-enabling studies and clinical development of ZGN-839 and our second-generation MetAP2 inhibitors through the initiation of Phase 1 clinical development;
- complete the Phase 2b ZAF-203 clinical trial of beloranib as a treatment for severe obesity complicated by type 2 diabetes;
- seek to identify additional indications for beloranib or our other product candidates;
- seek to obtain regulatory approvals for our product candidates;
- add operational, financial and management information systems;
- add personnel, including personnel to support our product development and future commercialization; and
- maintain, leverage and expand our intellectual property portfolio.

We expect that our existing cash, cash equivalents and marketable securities as of September 30, 2015 will enable us to fund our operating expenses and capital expenditure requirements for at least the next 18 months. We have based this estimate on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development of beloranib, ZGN-839 and our second-generation MetAP2 inhibitors and because the extent to which we may enter into collaborations with third parties for development of these product candidates is unknown, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates. Our future capital requirements for beloranib, ZGN-839 and our second-generation MetAP2 inhibitors will depend on many factors, including:

- the costs, timing and outcome of regulatory review;
- the costs of future research and development activities, including clinical trials;

- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the extent to which we acquire or in-license other products and technologies; and
- our ability to establish any future collaboration arrangements on favorable terms, if at all.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute the ownership interest of our common stockholders. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs of beloranib, ZGN-839 or our second-generation MetAP2 inhibitors or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market beloranib, ZGN-839 or our second-generation MetAP2 inhibitors that we would otherwise prefer to develop and market ourselves.

Since our inception in 2005, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in each year or our earned research and development tax credits, due to our uncertainty of realizing a benefit from those items. As of December 31, 2014, we had federal and state net operating loss carryforwards of $17.0 million and $9.6 million, respectively. Our federal net operating loss carryforwards begin to expire in 2026 and our state net operating loss carryforwards begin to expire in 2030. As of December 31, 2014, we also had federal and state research and development tax credit carryforwards of $7.7 million and $1.9 million, respectively, which begin to expire in 2026 and 2021, respectively. We have not completed a study to assess whether an ownership change, generally defined as a greater than 50% change (by value) in the equity ownership of our corporate entity over a three-year period, has occurred or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such studies. Accordingly, our ability to utilize our tax carryforwards may be limited. Additionally, U.S. tax laws limit the time during which these carryforwards may be utilized against future taxes. As a result, we may not be able to take full advantage of these carryforwards for federal and state tax purposes.

Contractual Obligations and Commitments

During the nine months ended September 30, 2015, there have been no material changes to our contractual obligations and commitments outside the ordinary course of business from those described under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Contractual Obligations and Commitments” in our Annual Report on Form 10-K for the year ended December 31, 2014, as filed with the SEC on March 25, 2015, and in our Quarterly Report on Form 10-Q for the period ended March 31, 2015, as filed with the SEC on May 14, 2015.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our balance sheets.

Application of Critical Accounting Policies

Our condensed consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles. The preparation of our financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that of our critical accounting policies which are described under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations— Critical Accounting Policies and Significant Judgments and Estimates” in our Annual Report on Form 10-K for the year ended December 31, 2014, as filed with the SEC on March 25, 2015, the following accounting policies involve the most judgment and complexity:

- accrued research and development costs; and
- stock-based compensation.

Accordingly, we believe the policies set forth above are critical to fully understanding and evaluating our financial condition and results of operations. If actual results or events differ materially from the estimates, judgments and assumptions used by us in applying these policies, our reported financial condition and results of operations could be materially affected. There have been no material changes to our critical accounting policies during the nine months ended September 30, 2015.

Recently Issued Accounting Pronouncements

In August 2014, the Financial Accounting Standards Board issued Accounting Standards Update, Presentation of Financial Statements — Going Concern (Subtopic 205-40). The new guidance addresses management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. Management's evaluation should be based on relevant conditions and events that are known and reasonably knowable at the date that the financial statements are issued. The standard will be effective for the first interim period within annual reporting periods beginning after December 15, 2016. Early adoption is permitted. We are evaluating the effect that this guidance will have on our consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosure about Market Risk

Interest Rate Fluctuation Risk

Our cash, cash equivalents and marketable securities as of September 30, 2015 consisted of cash, money market accounts, commercial paper, corporate bonds and U.S government securities. The primary objectives of our investment activities are to preserve principal, provide liquidity and maximize income without significantly increasing risk. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. If market interest rates were to increase immediately and uniformly by 50 basis points, or one-half of a percentage point, from levels at September 30, 2015, the net fair value of our interest-sensitive financial instruments would have resulted in a hypothetical decline of $0.4 million.

Foreign Currency Exchange Risk

Foreign currency transaction exposure results primarily from transactions with our contract research organizations and other providers related to our clinical trials that are denominated in currencies other than the functional currency of the legal entity in which the transaction is recorded by us, primarily the Australian dollar. Any transaction gains or losses resulting from currency fluctuations is recorded on a separate line in our consolidated statements of operations. Net foreign currency transaction losses of $0.2 million were recorded for the nine months ended September 30, 2015.

Currently, our largest foreign currency exposures are those with respect to the Australian dollar. Relative to foreign currency exposures existing as of September 30, 2015, a 10% unfavorable movement in foreign currency exchange rates would expose us to losses in earnings. For the nine months ended September 30, 2015, we estimated that a 10% unfavorable movement in foreign currency exchange rates would have increased our net loss by $0.1 million. This amount is based on a sensitivity analysis performed on our financial position as of September 30, 2015. We have experienced and we will continue to experience fluctuations in our net income (loss) as a result of revaluing our assets and liabilities that are not denominated in the functional currency of the entity that recorded the asset or liability. At this time, we do not hedge our foreign currency risk.

Item 4. Management's Evaluation of our Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act) that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Based on this evaluation, our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our principal executive officer and principal financial officer have concluded based upon the evaluation described above that, as of September 30, 2015, our disclosure controls and procedures were effective at the reasonable assurance level.

We continue to review and document our disclosure controls and procedures, including our internal controls and procedures for financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business.

Changes in Internal Control Over Financial Reporting

During the three months ended September 30, 2015, there have been no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

On October 21, 2015, a purported stockholder of the Company filed a putative class action lawsuit in the U.S. District Court for the District of Massachusetts, against us and Thomas E. Hughes, entitled *Aviad Bessler v. Zafgen, Inc. and Thomas E. Hughes,* No. 1:15-cv-13618. The lawsuit alleges violations of Sections 10(b), 20(a) and Rule 10b-5 of the Exchange Act by making allegedly false and misleading statements and omissions about our clinical trials for our drug beloranib. The lawsuit seeks, among other things, compensatory damages in connection with our allegedly inflated stock price between January 12, 2015 and October 16, 2015 as a result of those allegedly false and misleading statements, as well as punitive damages, interest, attorneys' fees and costs.

In the future, we may become party to legal matters and claims arising in the ordinary course of business, the resolution of which we do not anticipate would have a material adverse impact on our financial position, results of operations or cash flows.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this Quarterly Report on Form 10-Q and in our other public filings before making an investment decision. Our business, prospects, financial condition, or operating results could be harmed by any of these risks, as well as other risks not currently known to us or that we currently consider immaterial. If any such risks or uncertainties actually occur, our business, financial condition or operating results could differ materially from the plans, projections and other forward-looking statements included in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this report and in our other public filings. The trading price of our common stock could decline due to any of these risks, and as a result, you may lose all or part of your investment.

Risks Related to Product Development, Regulatory Approval and Commercialization

We recently learned of a patient death in the U.S. Phase 3 clinical trial in PWS, and received notice from the FDA that the IND for beloranib has been placed on a partial clinical hold. We cannot be certain that we will be able to obtain FDA's authorization to remove the partial clinical hold for beloranib, obtain regulatory approval for beloranib, or successfully commercialize beloranib.

We initiated our Phase 3 clinical program, which is planned to consist of two Phase 3 clinical trials, of beloranib in patients with PWS, with the first Phase 3 trial in the United States, also referred to as the bestPWS clinical trial, ZAF-311, having started in September 2014. Patient enrollment of 108 patients in the ZAF-311 clinical trial was completed in May 2015. In late-September 2015, we learned of a patient death in the ongoing Phase 3 clinical trial but at that time did not know whether the patient's treatment assignment was beloranib. In October 2015, we learned that the patient was receiving beloranib after the patient's treatment assignment was unblinded per the request of the U.S. Food and Drug Administration, or FDA, and, on October 15, 2015, we received notice from the FDA that the Investigational New Drug Application, or IND, for beloranib has been placed on a partial clinical hold. Subsequently, we received the patient's death certificate and learned that the cause of death was determined to be respiratory failure as a consequence of pulmonary emboli. However, it is not known if this event was related to treatment with beloranib. After review of our ongoing clinical trials, we elected to proceed with efficacy and safety data analysis and close the randomized portion of our Phase 3 ZAF-311 clinical trial of beloranib in patients with PWS and our Phase 2b ZAF-203 clinical trial of beloranib in patients with severe obesity complicated by type 2 diabetes. We believe that a sufficient number of patients have completed randomized treatment in both clinical trials to assess the efficacy of beloranib and help inform next steps for the beloranib program. Following the partial clinical hold, we believe we can best preserve the integrity of the data in each clinical trial by closing the randomized portion of the clinical trials early. We expect, based on discussion with the FDA that ZAF-311 remains a pivotal clinical trial. Open label extension, or OLE, of the ZAF-311 is continuing on a patient-by-patient basis after successful screening measures are completed and patients elect to re-consent to remain in the OLE portion of the clinical trial. We are confirming acceptance by FDA of our statistical analysis plan, or SAP, before proceeding directly to data analysis, which we expect in Q1 2016. All other future clinical trials of beloranib under the IND are on hold until the FDA reviews the safety and efficacy results of ZAF-311, including the ZAF-312 Phase 3 clinical trial in PWS that was to start in Q4 2015. We will continue to engage in

discussions with applicable regulatory authorities to determine if our proposed Phase 3 clinical trials, when resumed and completed, will be sufficient to support a New Drug Application, or NDA, submission to the FDA and a marketing authorization application, or MAA, to the European Medicines Agency, or EMA, and other regulatory agencies seeking approval of beloranib for the treatment of obesity and hyperphagia in patients with PWS. Prior to initiation of our Phase 3 clinical program for beloranib in patients with PWS, we submitted pre-clinical animal studies and clinical trial results for the FDA's review, and have several additional studies to complete or that need further evaluation, including human factors studies to demonstrate patients' ability to correctly use the syringe device for dispensing beloranib, abuse potential studies and rat and mouse carcinogenicity studies. However, the FDA may require additional pre-clinical animal studies or clinical studies, labeling statements in the beloranib product labeling, or restrictions.

The FDA and certain European regulatory authorities may delay, limit or deny approval of beloranib for many reasons, including, among others:

- we may not be able to resume or start new clinical trials of beloranib;
- we may not be able to demonstrate that beloranib is safe and effective in treating obesity and hyperphagia in patients with PWS, obesity in patients with HIAO or severe obesity in the general population, to the satisfaction of the FDA and EMA;
- the results of our clinical trials may not meet the level of statistical or clinical significance required by the FDA and EMA for marketing approval;
- the FDA and EMA may disagree with the number, design, size, duration, conduct or implementation of our clinical trials;
- the FDA and EMA may require that we conduct additional clinical trials or pre-clinical studies;
- the FDA and EMA may not approve the formulation, labeling or specifications of beloranib;
- the contract research organizations, or CROs, that we retain to conduct our clinical trials may take actions outside of our control that materially adversely impact our clinical trials;
- the FDA and EMA may find the data from pre-clinical studies and clinical trials insufficient to demonstrate that beloranib's clinical and other benefits outweigh its safety risks;
- the FDA and EMA may disagree with our interpretation of data from our pre-clinical studies and clinical trials;
- the FDA and EMA may not accept data generated at our clinical trial sites;
- if and when our NDA is submitted and reviewed by an FDA advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of our application or may recommend that the FDA require, as a condition of approval, additional pre-clinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;
- the FDA may require development of a REMS, as a condition of approval or post-approval, or may not agree with our proposed REMS or may impose additional requirements that limit the promotion, advertising, distribution, or sales of beloranib;
- the FDA and EMA may not approve the manufacturing processes or facilities of third-party manufacturers with which we contract; or
- the FDA and EMA may change their approval policies or adopt new regulations.

Any of these factors, many of which are beyond our control, could jeopardize our ability to obtain and/or maintain regulatory approval for and successfully market beloranib.

We depend almost entirely on the success of one product candidate, beloranib, which is in Phase 3 clinical development for our lead indication of the treatment of obesity and hyperphagia in patients with PWS and Phase 2 clinical development for HIAO and severe obesity complicated by type 2 diabetes.

We currently have only one product candidate, beloranib, in clinical development, and our business depends almost entirely on its successful clinical development, regulatory approval and commercialization. We currently have no drug products for sale and may never be able to develop marketable drug products. Beloranib, which is currently in Phase 3 clinical development as a treatment for obesity and hyperphagia in patients with Prader-Willi syndrome, or PWS, Phase 2 clinical development for hypothalamic injury-associated obesity, or HIAO, and Phase 2b clinical development for severe obesity complicated by type 2 diabetes, will require substantial additional clinical development, testing and regulatory approval before we are permitted to commence its commercialization. Because our business is almost entirely dependent upon this one product candidate, any such setback in our pursuit of regulatory approval would have a material adverse effect on our business and prospects.

Our other product candidates, including ZGN-839, and our second-generation MetAP2 inhibitors, are still in pre-clinical development stages. The clinical trials of our product candidates are, and the manufacturing and marketing of our product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to test and, if approved, market any product candidate. Before obtaining regulatory approvals for the commercial sale of any product candidate, we must demonstrate through pre-clinical testing and clinical trials that the product candidate is safe and effective for use in each target indication. This process can take many years and may include post-marketing studies or PMS, post-marketing requirements, or PMRs, and surveillance such as Risk Evaluation and Mitigation Strategies, or REMS, which will require the expenditure of substantial resources beyond the proceeds we currently have on hand. Of the large number of drugs in development in the United States, only a small percentage will successfully complete the FDA regulatory approval process and be commercialized. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development and clinical trials, we cannot assure you that beloranib or any other of our product candidates will be successfully developed or commercialized.

We are not permitted to market beloranib in the United States until we receive approval of an NDA from the FDA or in any foreign countries until we receive the requisite marketing approval from such countries. We recently completed three Phase 2 clinical trials of beloranib, one in patients with PWS, one in patients with HIAO and one in severely obese patients. Outside of the current partial clinical hold instituted in October 2015 by the FDA, we expect that the FDA will require us to conduct at least one pivotal trial in order to submit an NDA for beloranib as a treatment for patients with PWS as well as at least one pivotal trial in order to submit an NDA for beloranib as a treatment for patients with HIAO. However, meeting the requirements of the FDA or certain European regulatory authorities may require that we conduct additional pivotal trials. We expect that the FDA will also require us to complete at least two Phase 3 clinical trials prior to submitting an NDA for beloranib as a treatment for severe obesity in the general population, and may require that we conduct a cardiovascular outcomes trial which may include over 10,000 patients and last over the course of multiple years. Pursuant to the FDA's February 2007 draft guidance to industry on the development of weight management drugs, in order to reasonably estimate the safety of a weight-management drug, Phase 3 clinical trials must randomize approximately 3,000 subjects to active doses of the product and 1,500 subjects to placebo in clinical trials for a one-year duration. Accordingly, obtaining approval of an NDA is a complex, lengthy, expensive and uncertain process.

Positive results from early clinical trials of beloranib are not necessarily predictive of the results of later clinical trials of beloranib. If we cannot replicate the positive results from our earlier clinical trials of beloranib in our later-stage clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize beloranib. It may further be necessary to validate different or additional instruments for measuring subjective endpoints, such as hyperphagia, and to show that beloranib has a clinically meaningful impact on those endpoints in order to obtain regulatory approval.

Positive results from our Phase 1 and Phase 2 clinical trials of beloranib may not necessarily be predictive of the results from required later-stage clinical trials. Similarly, even if we are able to complete our Phase 2b or Phase 3 clinical trials of beloranib according to our current development timeline, the positive results from our Phase 1 and Phase 2a clinical trials of beloranib may not be replicated in our Phase 2b or Phase 3 clinical trial results. The design of our Phase 3 clinical program of beloranib as a treatment for obesity and hyperphagia in patients with PWS differs in several aspects from our recently completed Phase 2a clinical trial for PWS and we may not have consistent results between one Phase 3 clinical trial to the second Phase 3 clinical trial in PWS. For example, patients with PWS will not be limited to living in closely-controlled PWS-specific group homes like they were in our Phase 2a clinical trial but will be predominantly living in family homes. In addition, patients with PWS will be treated with beloranib for substantially longer than four weeks and our U.S. Phase 3 extension trial, European Phase 3 trial for PWS and all subsequent Phase 2 and 3 studies will test a pre-filled diluent syringe instead of single use glass vials, which were used in our Phase 2a and U.S. Phase 3 clinical trials. One of the Phase 3 clinical trials, ZAF-312, will be conducted primarily in the European Union, where we have not previously conducted clinical trials. In our Phase 2a clinical trial for PWS we saw statistically significant improvements in hyperphagia behaviors, body mass and fat mass; body weight was also reduced, but not to a statistically significant level. For example, the results of our Phase 2a clinical trial for severe obesity were based on a per protocol analysis of patients who completed the 12-week dosing in the clinical trial. Later-stage clinical trials will utilize highly rigorous statistical analyses. Based on our decision to stop the randomized portion of the ZAF-311 clinical trial we are currently in ongoing dialogue with the FDA to address the treatment of patient data impacted by this decision in the SAP. We had previously finalized the statistical analysis of primary efficacy endpoints for the bestPWS clinical trial to be hyperphagia-related behaviors and body weight as the co-primary efficacy endpoints and to be evaluated at a significance level of p-value less than 0.05. Later-stage clinical trials will be evaluated based on an intent-to-treat analysis that

includes all patients randomized in the clinical trial, regardless of whether they complete treatment, which may lead to different results. Moreover, if the caregiver-administered PWS-specific hyperphagia-related behaviors questionnaire, or PWS HQ-CT, is not validated by the ZAF-311 data, our Phase 3 clinical program or our regulatory filing may be delayed until we validate the tool or develop and test a new one. This can be a lengthy process. There are also differences expected between our ZAF-311 and ZAF-312 clinical trials. We learned of a patient death in the U.S. Phase 3 clinical trial, and subsequently received notice from the FDA that the IND for beloranib has been placed on a partial clinical hold, in order to put new screening measures in place to mitigate risk of thrombotic events. All other future clinical trials of beloranib under the IND are on hold until the FDA reviews the safety and efficacy results of ZAF-311, including the ZAF-312 Phase 3 clinical trial in PWS that was to start in Q4 2015. We have elected to proceed with efficacy and safety data analysis and close the randomized portion of our Phase 3 ZAF-311 clinical trial and our Phase 2b ZAF-203 clinical trial.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not continue to face similar setbacks. These setbacks have been caused by, among other things, pre-clinical findings made while clinical trials were underway or safety or efficacy observations made in clinical trials, including previously unreported adverse events. Moreover, pre-clinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in pre-clinical studies and clinical trials nonetheless failed to obtain FDA and/or EMA approval. If we fail to produce positive results in our Phase 2b or Phase 3 clinical trials of beloranib, the development timeline and regulatory approval and commercialization prospects for our leading product candidate, and, correspondingly, our business and financial prospects, would be materially adversely affected.

Failures or delays in the commencement or completion of our planned clinical trials of beloranib could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.

We initiated our Phase 3 clinical program of beloranib as a treatment for obesity and hyperphagia in patients with PWS in the United States in September 2014 (ZAF-311). We also initiated a Phase 2b clinical trial of beloranib as a treatment for severe obesity in patients who also have type 2 diabetes in December 2014 in Australia (ZAF-203). In late-September 2015, we learned of a patient death in the ongoing Phase 3 clinical trial, but at that time did not know whether the patient's treatment assignment was beloranib. In October 2015, we learned that the patient was receiving beloranib after the patient's treatment was unblinded and, on October 15, 2015, we received notice from the FDA that the IND for beloranib has been placed on a partial clinical hold. Subsequently, we received the patient's death certificate and learned that the cause of death was determined to be respiratory failure due to pulmonary emboli. However, it is not known if this event was related to the treatment of beloranib. The ZAF-312 Phase 3 clinical trial, to be conducted mainly in the European Union, has also been placed on hold until a full assessment is performed by the FDA and the EMA of the safety and efficacy data from ZAF-311. After review of our ongoing clinical trials, we have elected to proceed with efficacy and safety data analysis and close the randomized portion of our Phase 3 ZAF-311 and our Phase 2b ZAF-203 clinical trial.

Despite the guidance received from, and to be received from, these regulatory authorities, both the FDA and the EMA can change their positions on the acceptability of our trial designs or the clinical endpoints selected, which may require us to complete additional clinical trials or impose stricter approval conditions than we currently expect. Resumption and successful completion of such clinical trials is a prerequisite to submitting an NDA to the FDA and an MAA to the EMA and, consequently, the ultimate approval and commercial marketing of beloranib. We do not know whether any clinical trials will begin or be completed on schedule, if at all, as the commencement and completion of clinical trials can be delayed or prevented for a number of reasons, including, among others:

- the FDA or EMA may place further clinical trials on hold or may deny permission to pursue other clinical trials we want to initiate;
- delays in regulatory filing or receiving regulatory approvals or additional INDs, or clinical trial applications, or CTAs, that may be required;
- negative results from our ongoing pre-clinical studies, or the FDA or EMA may require additional pre-clinical studies;
- delays in reaching or failing to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- inadequate quantity or quality of a product candidate or other materials necessary to conduct clinical trials, for example delays in the manufacturing of sufficient supply of finished drug product;
- difficulties obtaining Institutional Review Board, or IRB, and/or ethics committee approval to conduct a clinical trial at a prospective site or sites in the United States or the European Union;
- challenges in recruiting and enrolling patients to participate in clinical trials, including the size and nature of the patient population, the proximity of patients to trial sites, eligibility criteria for the clinical trial, the nature of the clinical trial protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical trial programs for similar indications;

- severe or unexpected drug-related side effects experienced by patients in a clinical trial, including side effects previously identified in our completed clinical trials;
- delays in validating the PWS HQ-CT or any other self-reported measures of hunger and related endpoints utilized in a clinical trial, including delays caused as a result of the need to translate the PWS HQ-CT or other self-reported measures of hunger into European languages other than English;
- the FDA or EMA may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials;
- difficulties in retaining or recruiting clinical investigators in our ongoing or future clinical trials;
- reports from pre-clinical or clinical testing of other weight loss therapies that raise safety or efficacy concerns; and
- difficulties retaining patients who have enrolled in a clinical trial but may be prone to withdraw due to rigors of the clinical trials, lack of efficacy, side effects, current thromboembolic screening and monitoring measures, personal issues or loss of interest.

Clinical trials may also be delayed or terminated as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, the FDA, such as our ZAF-311 clinical trial, other regulatory authorities, the IRBs, or ethics committees, at the sites where the IRBs or ethics committees are overseeing a clinical trial, a data and safety monitoring board, or DSMB, or Safety Monitoring Committee, or SMC, overseeing the clinical trial at issue or other regulatory authorities due to a number of factors, including, among others:

- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;
- inspection of the clinical trial operations or trial sites by the FDA or EMA that reveals deficiencies or violations that require us to undertake corrective action, including the imposition of a clinical hold;
- unforeseen safety issues, including any that could be identified in our ongoing pre-clinical studies, adverse side effects or lack of effectiveness;
- changes in government regulations or administrative actions;
- problems with clinical supply materials; and
- lack of adequate funding to continue the clinical trial.

Changes in regulatory requirements, FDA guidance or guidance from EMA or unanticipated events during our clinical trials of beloranib may occur, which may result in changes to clinical trial protocols or additional clinical trial requirements, which could result in increased costs to us and could delay our development timeline.

Changes in regulatory requirements, FDA guidance or guidance from EMA or unanticipated events during our clinical trials may force us to adjust our clinical program or the FDA or EMA may impose additional clinical trial and/or pre-clinical study requirements. For instance, the FDA issued draft guidance on developing products for weight management in February 2007, but this guidance may be revised in the near future. In March 2012, the FDA's Endocrinologic and Metabolic Drugs Advisory Committee met to discuss possible changes to how the FDA evaluates the cardiovascular safety of weight-management drugs and although new guidance has not been issued yet it may occur any time. Amendments to our clinical trial protocols would require resubmission to the FDA or EMA, as well as IRBs and ethics committees for review and approval, which may adversely impact the cost, timing or successful completion of a clinical trial. If we experience delays completing, or if we terminate, any of our clinical trials, or if we are required to conduct additional clinical trials and/or pre-clinical studies, the commercial prospects for beloranib may be harmed and our ability to generate product revenue will be delayed.

We rely, and expect that we will continue to rely, on third parties to conduct any future clinical trials for beloranib. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize beloranib and our business could be substantially harmed.

We enter into agreements with third-party CROs to provide monitors for and to manage data for our ongoing clinical trials. We rely heavily on these parties for execution of clinical trials for beloranib and control only certain aspects of their activities. As a result, we have less direct control over the conduct, timing and completion of these clinical trials and the management of data developed through the clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;

- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with requirements for Good Clinical Practice, or cGCPs, which are legal requirements enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for any products in clinical development. The FDA enforces these cGCP regulations through periodic inspections of clinical trial sponsors, principal investigators and trial sites, IRBs, ethics committees, and other vendors that may be involved in the clinical development of new products. If we or our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that any of our clinical trials comply with cGCPs. In addition, our clinical trials must be conducted with product produced under current Good Manufacturing Practices, or cGMPs regulations, to assure the identity, strength, quality, and purity of our drug product candidates being used in the clinical trials, as well as the to-be-marketed formulation and product. Our failure or the failure of our CROs and/or contract manufacturing organizations, or CMOs, to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and could also subject us to enforcement action up to and including civil and criminal penalties.

Although we do design our clinical trials for beloranib, CROs conduct all of the clinical trials. As a result, many important aspects of our drug development programs are outside of our direct control. In addition, the CROs may not perform all of their obligations under arrangements with us or in compliance with regulatory requirements, but we remain responsible and are subject to enforcement action that may include civil penalties up to and including criminal prosecution for any violations of FDA laws and regulations during the conduct of our clinical trials. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us, or fail to comply with regulatory requirements, the development and commercialization of beloranib may be delayed or our development program materially and irreversibly harmed. We cannot control the amount and timing of resources these CROs devote to our program or beloranib. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of our clinical trials and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs in a timely manner, or at all. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, any such clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize beloranib. As a result, our financial results and the commercial prospects for beloranib in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

The number of patients suffering from each of PWS and HIAO is small and has not been established with precision. If the actual number of patients with either of these conditions is smaller than we estimate or if any approval that we obtain is based on a narrower definition of these patient populations, our revenue and ability to achieve profitability will be adversely affected, possibly materially.

There is no current comprehensive patient registry or other method of establishing with precision the actual number of patients with PWS or HIAO in any geography. Published population studies estimate that the prevalence of PWS in the United States and in the European Union ranges from 1 in 8,000 to 1 in 50,000. Published population studies estimate that the incidence of craniopharyngioma, the leading cause of HIAO, is 0.13 to 0.17 per 100,000 per year, or approximately 400 to 500 cases per year in the United States and 650 to 850 cases per year in the European Union. The total addressable market opportunity for beloranib for the treatment of patients with PWS or HIAO will ultimately depend upon, among other things, the diagnosis criteria included in the final label for beloranib, if approved for sale for these indications, acceptance by the medical community and patient access, product pricing and reimbursement. If the actual number of patients with PWS or HIAO is lower than we believe or if any approval that we obtain is based on a narrower definition of these patient populations, then the potential markets for beloranib for these indications will be smaller than we anticipate.

In addition, we plan to seek approval of beloranib initially for the treatment of adolescent and adult patients, 12 years of age and older, with PWS and adolescent and adult patients with HIAO. We believe that approximately 40-50% of patients with PWS are 12 years of age or older. We are currently engaged in early discussions with the FDA and EMA regarding plans for development of

beloranib for the treatment of pediatric patients under the age of 12 years old. To support approval for pediatric patients (younger than 12 years of age) we will need to conduct pediatric clinical trials of beloranib for the treatment of these patients with PWS, but we do not yet have plans regarding when these trials will commence. As a result, any FDA and EMA approval would likely, at least initially, be limited to use for treating adolescent and adult patients with PWS or adolescent and adult patients with HIAO. This would limit our initial product revenue and may make it more difficult for us to achieve or maintain profitability.

We rely completely on third-party suppliers to manufacture our clinical drug supplies for beloranib, and we intend to rely on third parties to produce commercial supplies of beloranib and pre-clinical, clinical and commercial supplies of any future product candidate.

We do not currently have, nor do we currently plan to acquire, the infrastructure or capability to internally manufacture our clinical drug supply of beloranib, or any future product candidates, for use in the conduct of our pre-clinical studies and clinical trials, and we lack the internal resources and the capability to manufacture any product candidates on a clinical or commercial scale. The facilities used by our CMOs to manufacture the active drug substance, sterile drug substance and final drug product must be approved by the FDA and other comparable foreign regulatory agencies pursuant to inspections that would be conducted after we submit our NDA or relevant foreign regulatory submission to the applicable regulatory agency.

We do not control the manufacturing process of, and are completely dependent on, our CMOs to comply with cGMPs for manufacture of active drug substance, sterile drug substance and finished drug products. If our CMOs cannot successfully manufacture material that conforms to our specifications and the regulatory requirements of the FDA or applicable foreign regulatory agencies, the CMOs will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. While we manage our quality expectations through an audit program for our vendors and suppliers, we have no direct control over our CMOs' ability to maintain adequate quality control, quality assurance and qualified personnel. Furthermore, our CMOs are engaged with third party vendors to supply and/or manufacture starting materials or components for them, which exposes our CMOs to regulatory risks for the production of such materials and components. As a result, failure to satisfy the regulatory requirements for the production of those materials and components may affect the regulatory clearance of our CMOs' facilities generally. If the FDA or an applicable foreign regulatory agency does not approve these facilities for the manufacture of our product candidates or if it withdraws its approval in the future, we may need to find alternative manufacturing facilities, which would adversely impact our ability to develop, obtain regulatory approval for or market our product candidates.

We control our clinical trial supply chain by periodically meeting to assess clinical trial material needs and status of supply. Clinical trial materials are forecasted on a six month rolling basis taking into account enrollment rates, number of sites, component inventory and clinical kit shelf-life. The clinical supply forecast is maintained internally and used to aid in decision making for cGMP manufacturing as well as clinical kit packaging and labeling. In addition, the CROs we contract with maintain an inventory of all clinical kits that are allocated for a clinical trial as well as all components needed for the clinical kits. Our cross-functional internal working group discusses inventory on a regular basis. Distribution of kits to clinical sites is controlled via a validated system thus helping to manage inventory at the CRO. Resupply of finished drug product is in progress at our drug product CMO. The manufacturing process is under active development and is not yet validated. Any delays encountered with manufacturing activities, CMO scheduling, or raw material supply could delay the manufacturing of finished drug product.

Currently each batch of beloranib is individually contracted under a quality and supply agreement. The manufacture of primary stability batches for active drug substance, sterile drug substance and drug product have been completed and stability has been initiated, CMOs are currently supporting clinical activities, however CMOs that will manufacture commercial cGMP batches for beloranib will need to be approved by the FDA and other applicable foreign regulatory agencies, prior to commercialization. We plan to continue to rely upon CMOs and, potentially, collaboration partners to manufacture commercial quantities of beloranib, if approved. We are in the process of establishing long-term supply agreements with our current CMOs and vendors. Our current scale of manufacturing is adequate to support all of our needs for clinical trial supplies and launch for orphan markets. For peak usage in orphan markets and for indications with larger populations of affected patients, we will need to identify CMOs or partners to produce beloranib on a larger scale.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell beloranib, we may not be able to generate any revenue.

We do not currently have an infrastructure for the sales, marketing and distribution of pharmaceutical products. In order to market beloranib, if approved by the FDA or any other regulatory body, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, or if we are unable to do so on commercially reasonable terms, our business, results of operations, financial condition and prospects will be materially adversely affected.

Even if we receive marketing approval for beloranib in the United States, we may never receive regulatory approval to market beloranib outside of the United States.

We intend to pursue marketing approval of beloranib in the European Union and in other countries worldwide. In order to market any product outside of the United States, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of other countries, including potential additional clinical trials and/or nonclinical studies. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ from that required to obtain FDA approval. The marketing approval processes in other countries may implicate all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. Marketing approval in one country does not necessarily ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process or commercial activities in others. Failure to obtain marketing approval in other countries or any delay or other setback in obtaining such approval would impair our ability to market beloranib in such foreign markets. Any such impairment would reduce the size of our potential market, which could have a material adverse impact on our business, results of operations and prospects.

Even if we receive marketing approval for beloranib, it may not achieve broad market acceptance, which would limit the revenue that we generate from its sales.

The commercial success of beloranib, if approved for marketing by the FDA or EMA or other applicable regulatory authorities, will depend upon the awareness and acceptance of beloranib among the medical community, including physicians, patients, advocacy groups and healthcare payors. Market acceptance of beloranib, if approved, will depend on a number of factors, including, among others:

- beloranib's demonstrated ability to treat obesity and hyperphagia in patients with PWS, obesity in patients with HIAO, or patients with severe obesity in the general population and, if required by any applicable regulatory authority in connection with the approval for these indications, to provide patients with incremental health benefits, as compared with other available weight loss therapies, devices or surgeries;
- the relative convenience and ease of subcutaneous injections as the necessary method of administration of beloranib, including as compared with other treatments for severely obese patients;
- the prevalence and severity of any adverse side effects associated with beloranib, such as nausea, vomiting, headaches and difficulty sleeping or falling asleep;
- limitations or warnings contained in the labeling approved for beloranib by the FDA, EMA, or other regulatory authorities, such as a pregnancy Category X limitation;
- availability of alternative treatments, including a number of competitive obesity therapies already approved or expected to be commercially launched in the near future;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support and timing of market introduction of competitive products;
- publicity concerning our products or competing products and treatments;
- pricing and cost effectiveness;
- the effectiveness of our sales and marketing strategies;
- our ability to increase awareness of beloranib through marketing efforts;
- our ability to obtain sufficient third-party coverage or reimbursement;
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage; and
- the likelihood that the FDA may require development of a REMS, as a condition of approval or post-approval or may not agree with our proposed REMS or may impose additional requirements that limit the promotion, advertising, distribution or sales of beloranib.

If beloranib is approved but does not achieve an adequate level of acceptance by patients, advocacy groups, physicians and payors, we may not generate sufficient revenue from beloranib to become or remain profitable. Before granting reimbursement approval, healthcare payors may require us to demonstrate that, in addition to treating obesity in patients, beloranib also provides incremental health benefits to patients. Our efforts to educate the medical community and third-party payors about the benefits of beloranib may require significant resources and may never be successful.

Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities such as the FDA and/or the EMA to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. In our recently completed Phase 2 clinical trials of beloranib, the main adverse events, or AEs, including those leading to premature treatment discontinuation, in patients dosed with beloranib, have been dizziness, sleep disturbances, principally manifested as delayed onset of sleep, as well as nausea and vomiting. We have disclosed four serious adverse events, or SAEs, in connection with our clinical trials. The first two SAEs were pulmonary embolism in our ZAF-201 clinical trial that were not attributed as related to beloranib by the principal investigators in the clinical trial. The third SAE was the recent patient death in the U.S. Phase 3 ZAF-311 clinical trial of beloranib that was a result of respiratory failure as a consequence of pulmonary emboli and the clinical investigator has attributed the patient death to be possibly related to beloranib. In connection with the fourth SAE, after the patient death discussed above, we were asked by the FDA to unblind the treatment assignment for a patient in our ongoing Phase 2b ZAF-203 clinical trial who had a pulmonary embolism and the patient was determined to have been treated with beloranib. Because of the patient death and the occurrence of thrombotic events in patients treated with beloranib, the FDA has instituted a partial clinical hold of beloranib.

The safety data we have disclosed to date represents our interpretation of the data at the time of disclosure and it is subject to our further review and analysis. However, SAEs that are not characterized by clinical investigators as possibly related to beloranib or SAEs that occur in small numbers may not be disclosed to the public until such time the various documents submitted to the FDA as part of the approval process are made public. Adverse events or AEs, including dizziness, sleep disturbances, principally manifested as delayed onset of sleep, as well as nausea and vomiting, likewise may not have been disclosed to the public until such time as the various documents submitted to the FDA as part of the approval process are made public. We are unable to determine if the subsequent disclosure of SAEs will have an adverse effect on our stock price. In addition, our interpretation of the safety data from our clinical trials is contingent upon the review and ultimate approval of the FDA or other regulatory authorities. The FDA or other regulatory authorities may not agree with our methods of analyses or our interpretation of the results.

Further, if beloranib receives marketing approval and we or others identify undesirable side effects caused by the product (or any other similar product) after the approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may request that we withdraw the product from the market or may limit their approval of the product through labeling or other means;
- regulatory authorities may require the addition of labeling statements, such as a “boxed” warning or a contraindication or a precaution;
- we may be required to change the way the product is distributed or administered, conduct additional clinical trials or change the labeling of the product;
- we may decide to remove the products from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing our product candidates and significantly impact our ability to successfully commercialize our product candidates and generate revenues.

Even if we receive marketing approval for beloranib, we may still face future development and regulatory difficulties.

Even if we receive marketing approval for beloranib, regulatory authorities may still impose significant restrictions on beloranib’s indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies. Beloranib will also be subject to ongoing FDA and EMA requirements governing the labeling, packaging, storage and promotion of the product and recordkeeping and submission of safety and other post-market information. The FDA has significant post-market authority, including, for example, the authority to require labeling changes based on new safety information and to require post-market studies or clinical trials to evaluate serious safety risks related to the use of a drug. The FDA also has the authority to require, as part of an NDA or post-approval, the submission of a REMS. Any REMS required by the FDA may lead to increased costs to assure compliance with new post-approval regulatory requirements and potential requirements or restrictions on the sale of approved products, all of which could lead to lower sales volume and revenue. Additionally, FDA may require PMS and/or PMRs PMS, that could represent and result in additional restrictions and/or limitations for the product.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMPs and other regulations. If we or a regulatory agency discover problems with beloranib, such as adverse events of unanticipated severity or frequency, or problems with the facility where beloranib is manufactured, a regulatory agency may impose restrictions on beloranib, the manufacturer or us, including requiring withdrawal of beloranib from the market or suspension of manufacturing. If we or the manufacturing facilities for beloranib fail to comply with applicable regulatory requirements, a regulatory agency may, among other things:

- issue warning letters or untitled letters;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw marketing approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications submitted by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products, refuse to permit the import or export of products, or request that we initiate a product recall.

Competing technologies could emerge, including devices and surgical procedures, adversely affecting our opportunity to generate revenue from the sale of beloranib.

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. We have competitors in a number of jurisdictions, many of which have substantially greater name recognition, commercial infrastructures and financial, technical and personnel resources than we have. Established competitors may invest heavily to quickly discover and develop novel compounds that could make beloranib obsolete or uneconomical. Any new product that competes with an approved product may need to demonstrate compelling advantages in efficacy, convenience, tolerability and safety to be commercially successful. Other competitive factors, including generic competition, could force us to lower prices or could result in reduced sales. In addition, new products developed by others could emerge as competitors to beloranib. If we are not able to compete effectively against our current and future competitors, our business will not grow and our financial condition and operations will suffer.

There are no current pharmacological treatments for regulating hunger and hyperphagia-related behaviors of patients with PWS or hunger of patients with HIAO, and bariatric surgery is contraindicated in patients with PWS and is not frequently employed in patients with HIAO. We are aware of a clinical trial that was recently completed by Ferring Pharmaceuticals, Inc. to evaluate the use of carbetocin, an analogue of a brain peptide hormone oxytocin hypothesized to increase trust, reduce anxiety and improve behavior in patients with PWS. We also are aware of a clinical trial being conducted by Essentialis, Inc. to evaluate the safety and tolerability of controlled-release diazoxide in patients with PWS and to explore the effects of diazoxide on hyperphagia-related behaviors and energy expenditure. We are aware of a Phase 2 trial in its early phase of execution, by Rhythm Pharmaceuticals, Inc. to evaluate the effect of treatment with RM-493, a melanocortin receptor agonist, in patients with PWS. In addition, any of our competitors may develop a drug to treat patients with PWS at any time. Also, Alize Pharma recently started a Phase 2 clinical trial in PWS of AZP-531, its unacylated ghrelin analog. We are not aware of any clinical trials of drugs specifically targeting patients with HIAO. Other potential competitors in the severe obesity market include bariatric service providers, and other potential approaches which utilize various implantable devices or surgical tools that have been cleared by the FDA, such as EnteroMedics Inc.'s VBlock Therapy, or that are in development by companies such as Allergan, Inc., BAROnova, Inc., Boston Scientific Corporation, Covidien Ltd., GI Dynamics, Inc., Gelesis, Neurosearch A/S, Johnson & Johnson and Medtronic, Inc. In addition, beloranib will compete with orlistat, phentermine/topiramate, lorcaserin naltrexone/bupropion, liraglutide and approved and currently marketed pharmaceutical products in the United States for the treatment of obesity and overweight patients in the presence of at least one related co-morbid condition, and several older agents, indicated for short-term administration, including phentermine, phendimetrazine, benzphetamine and diethylpropion. Orlistat is marketed in the United States by the Roche Group under the brand name Xenical and over-the-counter in the United States at half the prescribed dose by GlaxoSmithKline under the brand name alli. In June 2013, Arena Pharmaceuticals, Inc. launched its lorcaserin product, which is marketed in the United States under the name Belviq and in September 2012, Vivus, Inc. commercially launched its combination product, phentermine/topiramate, under the trade name Qsymia. In October 2014, Takeda Pharmaceuticals U.S.A., Inc. and Orexigen Therapeutics, Inc. launched the combination product naltrexone HCl/bupropion HCl extended-release tablets under the name Contrave and in April 2015, Novo Nordisk launched Saxenda (liraglutide injection).

Our future growth depends, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability will depend, in part, on our ability to commercialize beloranib in foreign markets for which we may rely on collaborations with third parties. If we commercialize beloranib in foreign markets, we would be subject to additional risks and uncertainties, including:

- our customers' ability to obtain reimbursement for beloranib in foreign markets;
- our inability to directly control commercial activities because we are relying on third parties;
- the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- import or export licensing requirements;
- longer accounts receivable collection times;
- longer lead times for shipping;
- language barriers for technical training;
- reduced protection of intellectual property rights in some foreign countries;
- foreign currency exchange rate fluctuations; and
- the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of beloranib could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions and changes in tariffs.

We are subject to healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of beloranib, if approved. Our future arrangements with third-party payors will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute beloranib, if we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- The federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.
- The federal False Claims Act imposes criminal and civil penalties, including those from civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government.
- The federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.
- The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.
- The federal transparency requirements, sometimes referred to as the "Sunshine Act," under the Patient Protection and Affordable Care Act, require manufacturers of drugs, devices, and biologics to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests.
- Analogous state laws and regulations, such as state anti-kickback and false claims laws and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and drug pricing.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines and exclusion from government funded healthcare programs, such as Medicare and Medicaid, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If we are found to have improperly promoted off-label uses, we may become subject to significant liability.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as beloranib, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we receive marketing approval for beloranib as a treatment for obesity and hyperphagia in patients with PWS or patients with HIAO physicians may nevertheless prescribe beloranib to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion and required that they enter into corporate integrity agreements with the Office of Inspector General of the Department of Health and Human Services, or OIG. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of beloranib, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

Even if approved, reimbursement policies could limit our ability to sell beloranib.

Market acceptance and sales of beloranib will depend on reimbursement policies and may be affected by healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels for those medications. Cost containment is a primary concern in the U.S. healthcare industry and elsewhere. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that reimbursement will be available for beloranib and, if reimbursement is available, the level of such reimbursement. Reimbursement may impact the demand for, or the price of, beloranib. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize beloranib.

In some foreign countries, particularly in Canada and European countries, the pricing of prescription pharmaceuticals is subject to strict governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of beloranib with other available therapies. If reimbursement for beloranib is unavailable in any country in which we seek reimbursement, if it is limited in scope or amount, if it is conditioned upon our completion of additional clinical trials, or if pricing is set at unsatisfactory levels, our operating results could be materially adversely affected.

Even though we have received orphan drug designation for PWS, we may not receive orphan drug exclusivity for beloranib.

As part of our business strategy, we have obtained orphan drug designation in the United States and the European Union for beloranib for the treatment of patients with PWS and we also have obtained orphan drug designation in the European Union for craniopharyngioma. In the United States, the company that first obtains FDA approval for a designated orphan drug for the specified rare disease or condition receives orphan drug marketing exclusivity for that drug for a period of seven years. This orphan drug exclusivity prevents the FDA from approving another application, including a full NDA to market the same drug for the same orphan indication, except in very limited circumstances, including when the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. For purposes of small molecule drugs, the FDA defines "same drug" as a drug that contains the same active chemical entity and is intended for the same use as the drug in question. To obtain orphan drug exclusivity for a drug that shares the same active chemical entity as an already orphan designated drug, it must be demonstrated to the FDA that the drug is safer or more effective than the approved orphan designated drug, or that it makes a major contribution to patient care. In

addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition or if another drug with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care.

In the European Union, orphan drug designation also entitles a party to financial incentives such as reduction of fees or fee waivers. In addition, ten years of market exclusivity is granted following drug product approval, meaning that another application for marketing authorization of a later similar medicinal product for the same therapeutic indication will generally not be approved in the European Union. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable to not justify maintenance of market exclusivity.

Our product development programs for candidates other than beloranib may require substantial financial resources and may ultimately be unsuccessful.

In addition to the development of beloranib, we may pursue development of our other early-stage development programs. None of our other potential product candidates has commenced any clinical trials, and there are a number of FDA and certain European regulatory requirements that we must satisfy before we can commence clinical trials. Satisfaction of these requirements will entail substantial time, effort and financial resources. We may never satisfy these requirements. Any time, effort and financial resources we expend on our other early-stage development programs may adversely affect our ability to continue development and commercialization of beloranib, and we may never commence clinical trials of such development programs despite expending significant resources in pursuit of their development. If we do commence clinical trials of our other potential product candidates, such product candidates may never be approved by the FDA or other regulatory authorities.

Risks Relating to Our Intellectual Property Rights

If we are unable to adequately protect our proprietary technology or maintain issued patents which are sufficient to protect beloranib, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

Our commercial success will depend in part on our success in obtaining and maintaining issued patents and other intellectual property rights in the United States and elsewhere and protecting our proprietary technology. If we do not adequately protect our intellectual property and proprietary technology, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. Our owned and licensed patents and patent applications relate to beloranib compositions of matter, formulations, polymorphs, methods of treating obesity using dosing regimens of beloranib, and methods of treating hypothalamic obesity. The issued U.S. and European patents generally directed to beloranib compositions of matter are exclusively licensed and will each expire in 2019. We own two issued U.S. patents relating to beloranib polymorph compositions of matter that will expire in 2031 and four issued U.S. patents to methods of treating obesity that will expire in 2029. We own pending patent applications in Europe to beloranib polymorph composition of matter and methods of treating obesity that we expect to expire, once issued, in 2031.

As of October 30, 2015, we own six issued U.S. patents, and nine pending U.S. patent applications and foreign counterpart applications, all of which relate to beloranib. We have a license to two U.S. issued patents, one with corresponding issued foreign counterpart patents that also relate to beloranib. We also co-own one patent application relating to methods of using beloranib.

As of October 30, 2015, we own one issued U.S. patent, and twelve pending U.S. patent applications with pending foreign counterpart applications, all of which relate to our internal efforts to discover novel MetAP2 inhibitors. Of these, two pending U.S. patent applications with pending foreign counterpart patent applications relate to our early-stage product candidate ZGN-839.

As of October 30, 2015, we own two issued U.S. patents, three pending U.S. patent applications with pending foreign counterpart patent applications, and four U.S. provisional patent applications that relate to our second-generation injectable MetAP2 inhibitor program.

We cannot provide any assurances that any of our patents have, or that any of our pending patent applications that mature into issued patents will include, claims with a scope sufficient to protect beloranib or our other product candidates. Other parties have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming the same methods or formulations or by claiming subject matter that could dominate our patent position. The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, the

issuance, scope, validity and enforceability of any patent claims that we may obtain cannot be predicted with certainty. Patents, if issued, may be challenged, deemed unenforceable, invalidated, or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, *ex parte* reexamination, or *inter partes* review proceedings, supplemental examination and challenges in district court. Patents may be subjected to opposition, post-grant review, or comparable proceedings lodged in various foreign, both national and regional, patent offices. These proceedings could result in either loss of the patent or denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. In addition, such proceedings may be costly. Thus, any patents that we may own or exclusively license may not provide any protection against competitors. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize beloranib.

Furthermore, though an issued patent is presumed valid and enforceable, its issuance is not conclusive as to its validity or its enforceability and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products. Competitors may also be able to design around our patents. Other parties may develop and obtain patent protection for more effective technologies, designs or methods. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or trade secrets by consultants, vendors, former employees and current employees. The laws of some foreign countries do not protect our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries. If these developments were to occur, they could have a material adverse effect on our sales.

Our ability to enforce our patent rights depends on our ability to detect infringement. It is difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product. Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If any of our patents covering beloranib are invalidated or found unenforceable, our financial position and results of operations would be materially and adversely impacted. In addition, if a court found that valid, enforceable patents held by third parties covered beloranib, our financial position and results of operations would also be materially and adversely impacted.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- any of our patents, or any of our pending patent applications, if issued, will include claims having a scope sufficient to protect beloranib or any other products or product candidates;
- any of our pending patent applications will issue as patents;
- we will be able to successfully commercialize beloranib, if approved, before our relevant patents expire;
- we were the first to make the inventions covered by each of our patents and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not develop similar or alternative technologies that do not infringe our patents;
- any of our patents will be found to ultimately be valid and enforceable;
- any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or product candidates that are separately patentable; or
- that our commercial activities or products will not infringe upon the patents of others.

We rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. We also have agreements with our employees and selected consultants that obligate them to assign their inventions to us and have non-compete agreements with some, but not all, of our consultants. It is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants who are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing beloranib, if approved.

Our success will depend in part on our ability to operate without infringing the intellectual property and proprietary rights of third parties. We cannot assure you that our business, products and methods do not or will not infringe the patents or other intellectual property rights of third parties.

The pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that beloranib or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. Any claim relating to intellectual property infringement that is successfully asserted against us may require us to pay substantial damages, including treble damages and attorney's fees if we are found to be willfully infringing another party's patents, for past use of the asserted intellectual property and royalties and other consideration going forward if we are forced to take a license. In addition, if any such claim were successfully asserted against us and we could not obtain such a license, we may be forced to stop or delay developing, manufacturing, selling or otherwise commercializing beloranib.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

- cease developing, selling or otherwise commercializing beloranib;
- pay substantial damages for past use of the asserted intellectual property;
- obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and
- in the case of trademark claims, redesign, or rename, beloranib to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We may also be subject to claims that former employees, collaborators or other third parties have an ownership interest in our patents or other intellectual property. Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The U.S. Patent and Trademark Office, or U.S. PTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid, is unenforceable and/or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.

If we or one of our licensing partners initiated legal proceedings against a third party to enforce a patent covering our product candidate, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the U.S. PTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior act, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection would have a material adverse impact on our business.

We do not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. For example, an April 2014 report from the Office of the United States Trade Representative identified a number of countries, including India and China, where challenges to the procurement and enforcement of patent rights have been reported. Several countries, including India and China, have been listed in the report every year since 1989. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing beloranib or our other product candidates, if approved.

We have licensed our rights to beloranib from Chong Kun Dang Pharmaceutical Corp. of South Korea, or CKD. Our license with CKD imposes various obligations on us, including a requirement to use commercially reasonable efforts to develop beloranib and provides CKD the right to terminate the license thereunder in the event of a material breach. For example, CKD may allege that we have breached our license agreement and may accordingly seek to terminate our license with them. Termination of our license from CKD could result in our loss of the right to use the licensed intellectual property, which could materially adversely affect our ability to develop and commercialize beloranib, if approved, as well as harm our competitive business position and our business prospects. We also have an exclusive license with Children's Medical Center Corporation, or Children's, pursuant to which we exclusively licensed certain patent rights relating to decreasing the growth of fat tissue from Children's on a worldwide basis. We may enter into additional license(s) to third-party intellectual property that are necessary or useful to our business. Future licensor(s) may also allege that we have breached our license agreement and may accordingly seek to terminate our license with them. In addition, future licensor(s) may decide to terminate our license at will. If successful, this could result in our loss of the right to use the licensed intellectual property, which could materially adversely affect our ability to develop and commercialize a product candidate or product, if approved, as well as harm our competitive business position and our business prospects.

We have not yet registered trademarks for a commercial trade name for beloranib and failure to secure such registrations could adversely affect our business.

We have not yet registered trademarks for a commercial trade name for beloranib. Any future trademark applications may be rejected during trademark registration proceedings. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the U.S. PTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. Moreover, any name we propose to use with our product candidates in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the patent terms and obtaining data exclusivity for beloranib, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA marketing approval of beloranib, one or more of the U.S. patents we license may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, we may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our ability to generate revenues could be materially adversely affected.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

The United States has recently enacted and is currently implementing the America Invents Act of 2011, which is wide-ranging patent reform legislation. Further, the U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts and the U.S. PTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents or future patents.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Our employees have been previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we are not aware of any claims currently pending against us, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of the former employers of our employees. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending such claims, in addition to paying money claims, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to commercialize beloranib, which would materially adversely affect our commercial development efforts.

General Company-Related Risks

We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of October 30, 2015, we had 44 full-time employees and one part-time employee, and as we advance beloranib into later-stage clinical trials and if successful, into commercialization, we expect to increase our number of employees and the scope of our operations. To manage our anticipated development and expansion, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of beloranib. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize beloranib, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

Our future success depends on our ability to retain our Chief Executive Officer, and to attract, retain and motivate qualified personnel.

We are highly dependent on Dr. Thomas E. Hughes, our Chief Executive Officer. We have entered into an employment agreement with Dr. Hughes, but he may terminate his employment with us at any time. Although we do not have any reason to believe that we will lose the services of Dr. Hughes in the foreseeable future, the loss of his services might impede the achievement of our research, development and commercialization objectives. We also do not have any key-man life insurance on Dr. Hughes. We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us and may not be subject to our standard non-compete agreements. Recruiting and retaining qualified scientific personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.

Our employees may engage in misconduct or other improper activities, including violating applicable regulatory standards and requirements or engaging in insider trading, which could significantly harm our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and applicable non-U.S. regulators, provide accurate information to the FDA and applicable non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of, including trading on, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted an insider trading policy and a code of

conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may be ineffective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

We face potential product liability exposure, and, if claims are brought against us, we may incur substantial liability.

The use of beloranib in clinical trials and the sale of beloranib, if approved, exposes us to the risk of product liability claims. Product liability claims might be brought against us by patients, healthcare providers or others selling or otherwise coming into contact with beloranib. For example, we may be sued if any product we develop allegedly causes injury or death or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, including as a result of interactions with alcohol or other drugs, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we become subject to product liability claims and cannot successfully defend ourselves against them, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in, among other things:

- withdrawal of patients from our clinical trials;
- substantial monetary awards to patients or other claimants;
- decreased demand for beloranib or any future product candidates following marketing approval, if obtained;
- damage to our reputation and exposure to adverse publicity;
- increased FDA warnings on product labels;
- litigation costs;
- distraction of management's attention from our primary business;
- loss of revenue; and
- the inability to successfully commercialize beloranib or any future product candidates, if approved.

We maintain product liability insurance coverage for our clinical trials with a $10.0 million annual aggregate coverage limit. Nevertheless, our insurance coverage may be insufficient to reimburse us for any expenses or losses we may suffer. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses, including if insurance coverage becomes increasingly expensive. If and when we obtain marketing approval for beloranib, we intend to expand our insurance coverage to include the sale of commercial products; however, we may not be able to obtain this product liability insurance on commercially reasonable terms. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. The cost of any product liability litigation or other proceedings, even if resolved in our favor, could be substantial, particularly in light of the size of our business and financial resources. A product liability claim or series of claims brought against us could cause our stock price to decline and, if we are unsuccessful in defending such a claim or claims and the resulting judgments exceed our insurance coverage, our financial condition, business and prospects could be materially adversely affected.

We must maintain effective internal control over financial reporting, and if we are unable to do so, the accuracy and timeliness of our financial reporting may be adversely affected, which could have a material adverse effect on our business and stock price.

We must maintain effective internal control over financial reporting in order to accurately and timely report our results of operations and financial condition. In addition, as a public company, the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, requires, among other things, that we assess the effectiveness of our disclosure controls and procedures quarterly and the effectiveness of our internal control over financial reporting at the end of each fiscal year. We anticipate being first required to issue management's annual report on internal control over financial reporting, pursuant to Section 404 of the Sarbanes-Oxley Act, in connection with issuing our consolidated financial statements as of and for the year ending December 31, 2016.

The rules governing the standards that must be met for our management to assess our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act are complex and require significant documentation, testing and possible remediation. These stringent standards require that our audit committee be advised and regularly updated on management's review of internal control over financial reporting. Our management may not be able to effectively and timely implement controls and procedures that adequately respond to the increased regulatory compliance and reporting requirements that will be applicable to us as a public company. If we fail to staff our accounting and finance function adequately or maintain internal control over financial reporting adequate to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, our business and reputation may be harmed and our stock price may decline. Furthermore, investor perceptions of us may be adversely affected, which could cause a decline in the market price of our common stock.

In order to satisfy our obligations as a public company, we will need to hire additional qualified accounting and financial personnel with appropriate public company experience.

As a newly public company, we need to establish and maintain effective disclosure and financial controls and make changes in our corporate governance practices. We will need to hire additional accounting and financial personnel with appropriate public company experience and technical accounting knowledge, and it may be difficult to recruit and maintain such personnel. Even if we are able to hire appropriate personnel, our existing operating expenses and operations will be impacted by the direct costs of their employment and the indirect consequences related to the diversion of management resources from product development efforts.

Our ability to use our net operating loss carryforwards and certain tax credit carryforwards may be subject to limitation.

As of December 31, 2014, we had federal and state net operating loss carryforwards of $17.0 million and $9.6 million, respectively. Our federal net operating loss carryforwards begin to expire in 2026 and our state net operating loss carryforwards begin to expire in 2030. As of December 31, 2014, we also had federal and state research and development tax credit carryforwards of $7.7 million and $1.9 million, respectively, which begin to expire in 2026 and 2021, respectively. Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, changes in our ownership may limit the amount of our net operating loss carryforwards and research and development tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50% within a three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and research and development tax credit carryforwards before they expire. Our recent follow-on public offering, IPO, private placements and other transactions that have occurred since our inception, may trigger such an ownership change pursuant to Section 382. Any such limitation, whether as the result of our recent follow-on public offering, IPO, prior private placements, sales of our common stock by our existing stockholders or additional sales of our common stock by us, could have a material adverse effect on our results of operations in future years. We have not completed a study to assess whether an ownership change for purposes of Section 382 has occurred, or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such study.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including, weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

Our internal computer systems, or those of our third-party CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our beloranib development programs.

Despite the implementation of security measures, our internal computer systems and those of our third-party CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs. For example, the loss of clinical trial data for beloranib could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of beloranib could be delayed.

We may not be successful in our efforts to identify or discover additional product candidates.

The success of our business depends primarily upon our ability to identify, develop and commercialize products based on our weight loss platform. Although beloranib is currently in clinical development, our research programs may fail to identify other potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

We may acquire businesses or products, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions or alliances.

We may acquire additional businesses or products, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate such businesses with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such transaction, we will achieve the expected synergies to justify the transaction.

Risks Related to Our Financial Position and Need for Capital

We have not generated any revenue from product sales. We have incurred significant operating losses since our inception, and anticipate that we will incur continued losses for the foreseeable future.

Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. Our operations to date have been limited primarily to organizing and staffing our company and conducting research and development activities for beloranib, ZGN-839 and our second-generation MetAP2 inhibitors. We have never generated any revenue from product sales. We have not obtained regulatory approvals for any of our product candidates.

Since our inception, we have focused substantially all of our efforts and financial resources on developing beloranib, which is currently in Phase 3 clinical development for our lead indication of the treatment of hyperphagia and obesity in patients with PWS and Phase 2 clinical development for the treatment of obesity in patients with HIAO and the treatment of severe obesity in the general population. We have funded our operations to date through proceeds from sales of redeemable convertible preferred stock, convertible debt and proceeds from our IPO and follow-on public offering, and have incurred losses in each year since our inception. Our net losses were $51.1 million for the nine months ended September 30, 2015 and $36.5 million for the year ended December 31, 2014. As of September 30, 2015, we had an accumulated deficit of $156.5 million. Substantially all of our operating losses resulted from costs incurred in connection with our development programs for beloranib, ZGN-839 and our second-generation MetAP2 inhibitors, licensing milestone fees and from general and administrative costs associated with our operations. We expect to incur increasing levels of operating losses over the next several years and for the foreseeable future. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' deficit and working capital. We expect our research and development expenses to significantly increase in connection with our additional clinical trials of beloranib and development of ZGN-839, our second-generation MetAP2 inhibitors and of any other product candidates we may choose to pursue. In addition, if we obtain marketing approval for beloranib, we will incur significant sales, marketing and outsourced manufacturing expenses. Now that we are a public company, we will incur additional costs associated with operating as a public company. As a result, we expect to continue to incur significant and increasing operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing pharmaceutical products, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

Our ability to become profitable depends upon our ability to generate revenue. To date, we have not generated any revenue from our lead product candidate, beloranib, and we do not know when, or if, we will generate any revenue. We do not expect to generate significant revenue unless and until we obtain marketing approval of, and begin to sell, beloranib. Our ability to generate revenue depends on a number of factors, including, but not limited to, our ability to:

- initiate and successfully complete later-stage clinical trials that meet their clinical endpoints;
- initiate and successfully complete all safety studies required to obtain U.S. and foreign marketing approval for beloranib in the indications we are pursuing;
- commercialize beloranib, if approved, by developing a sales force or entering into collaborations with third parties; and
- achieve market acceptance of beloranib in the medical community and with third-party payors.

Absent our entering into a collaboration or partnership agreement, we expect to incur significant sales and marketing costs as we prepare to commercialize beloranib. Even if we initiate and successfully complete our pivotal clinical trials of beloranib, and beloranib is approved for commercial sale, and despite expending these costs, beloranib may not be a commercially successful drug. We may not achieve profitability soon after generating product sales, if ever. If we are unable to generate sufficient product revenue, we will not become profitable and may be unable to continue operations without continued funding.

We will need to raise additional funding, which may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

We are currently advancing beloranib through clinical development. Developing small molecule products is expensive, and we expect our research and development expenses to increase substantially in connection with our ongoing activities, particularly as we advance beloranib in later-stage, more costly clinical trials. Depending on the status of regulatory approval or, if approved, commercialization of beloranib, as well as the progress we make in selling beloranib, we may require additional capital to fund operating needs thereafter. We may also need to raise additional funds sooner if we choose to pursue additional indications and/or geographies for beloranib or otherwise expand more rapidly than we presently anticipate.

As of September 30, 2015, our cash, cash equivalents and marketable securities were $204.0 million. We expect that our cash, cash equivalents and marketable securities will be sufficient to fund our current operations for at least the next 18 months. However, our operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. In any event, we will require additional capital to obtain regulatory approval for, and to commercialize, our product candidates. Raising funds in the current economic environment may present additional challenges. Even if we believe we have sufficient funds for our current or future operating plans, we may seek additional capital if market conditions are favorable or if we have specific strategic considerations.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborative partners or otherwise at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidate or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product candidate or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights.

We may seek additional capital through a combination of private and public equity offerings, debt financings, collaborations and strategic and licensing arrangements. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, a stockholder's ownership interest in our company will be diluted. In addition, the terms of any such securities may include liquidation or other preferences that materially adversely affect the rights of our stockholders. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration, strategic partnerships and licensing arrangements with third parties, we may have to relinquish valuable rights to beloranib, our intellectual property, future revenue streams or grant licenses on terms that are not favorable to us.

Risks Related to Our Common Stock

We expect that our stock price may fluctuate significantly.

The market price of shares of our common stock, similar to the market price of shares of common stock of other biopharmaceutical companies, is subject is subject to wide fluctuations, and will continue to be subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- plans for, progress of or results from pre-clinical studies and clinical trials of beloranib;
- the failure of the FDA or the EMA to approve beloranib;
- announcements of new products, technologies, commercial relationships, acquisitions or other events by us or our competitors;
- the success or failure of other weight loss therapies;
- regulatory or legal developments in the United States and other countries;
- failure of beloranib, if approved, to achieve commercial success;
- fluctuations in stock market prices and trading volumes of similar companies;
- general market conditions and overall fluctuations in U.S. equity markets;
- variations in our quarterly operating results;
- changes in our financial guidance or securities analysts' estimates of our financial performance;
- changes in accounting principles;
- our ability to raise additional capital and the terms on which we can raise it;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;
- additions or departures of key personnel;
- discussion of us or our stock price by the press and by online investor communities; and
- other risks and uncertainties described in these risk factors.

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general, and NASDAQ listed and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. In the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock.

On October 21, 2015, a purported stockholder of the Company filed a putative class action lawsuit in the U.S. District Court for the District of Massachusetts, against us and Thomas E. Hughes, entitled *Aviad Bessler v. Zafgen, Inc. and Thomas E. Hughes,* No. 1:15-cv-13618. The lawsuit alleges violations of Sections 10(b), 20(a) and Rule 10b-5 of the Exchange Act by making allegedly false and misleading statements and omissions about our clinical trials for our drug beloranib. The lawsuit seeks, among other things, compensatory damages in connection with our allegedly inflated stock price between January 12, 2015 and October 16, 2015 as a result of those allegedly false and misleading statements, as well as punitive damages, interest, attorneys' fees and costs.

Our executive officers, directors, and principal stockholders exercise significant control over our company.

As of October 30, 2015, the existing holdings of our executive officers, directors, principal stockholders and their affiliates, including investment funds affiliated with Atlas Ventures, or Atlas, investment funds affiliated with Alta Partners, or Alta, investment funds affiliated with Foresite Capital and entities affiliated with Fidelity Investment, or Fidelity, represent beneficial ownership, in the aggregate, of approximately 38% of our common stock. As a result, these stockholders, if they act together, are able to influence our management and affairs and control the outcome of matters submitted to our stockholders for approval, including the election of directors and any sale, merger, consolidation, or sale of all or substantially all of our assets. The concentration of voting power among these stockholders may have an adverse effect on the price of our common stock. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

- delaying, deferring or preventing a change of control of us;

- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

Future sales of our common stock may cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur could significantly reduce the market price of our common stock and impair our ability to raise adequate capital through the sale of additional equity securities.

We have broad discretion in how we use the proceeds of our IPO and our follow-on public offering. We may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.

We have considerable discretion in the application of the net proceeds of our IPO and our follow-on public offering. We intend to use the net proceeds to advance the clinical development of beloranib as a treatment for obesity and hyperphagia in patients with PWS patients and obesity in patients with HIAO, or patients with severe obesity in the general population and to develop multiple second-generation MetAP2 inhibitors as a treatment for severe obesity in the general population, to continue the development and initiate clinical development of ZGN-839, to develop a pen-injector system for eventual commercial use in PWS, HIAO and severe obesity in the general population and to fund new and ongoing research and development activities, working capital and other general corporate purposes, which may include funding for the hiring of additional personnel, capital expenditures, early commercialization activities and the costs of operating as a public company. As a result, investors will be relying upon management's judgment with only limited information about our specific intentions for the use of the balance of the net proceeds. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds in a manner that does not produce income or that loses value.

We may be at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years.

On October 21, 2015, a purported stockholder of the Company filed a putative class action lawsuit in the U.S. District Court for the District of Massachusetts, against us and Thomas E. Hughes, entitled *Aviad Bessler v. Zafgen, Inc. and Thomas E. Hughes,* No. 1:15-cv-13618. The lawsuit alleges violations of Sections 10(b), 20(a) and Rule 10b-5 of the Exchange Act by making allegedly false and misleading statements and omissions about our clinical trials for our drug beloranib. The lawsuit seeks, among other things, compensatory damages in connection with our allegedly inflated stock price between January 12, 2015 and October 16, 2015 as a result of those allegedly false and misleading statements, as well as punitive damages, interest, attorneys' fees and costs.

We are an "emerging growth company" and have availed ourselves of reduced disclosure requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart our Business Startups Act of 2012, or the JOBS Act, and we have taken advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. In addition, Section 107 of the JOBS Act also provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. In other words, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. However, we are electing not to take advantage of such extended transition period, and as a result we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to not take advantage of the extended transition period for complying with new or revised accounting standards is irrevocable. We cannot predict if investors will find our common stock less attractive because we may rely on any of the exemptions available under the JOBS Act. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenue of $1.0 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our IPO; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; and (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

We have never paid dividends on our common stock and we do not anticipate paying any dividends in the foreseeable future. Consequently, any gains from an investment in our common stock will likely depend on whether the price of our common stock increases.

We have not paid dividends on any of our common stock to date and we currently intend to retain all of our future earnings, if any, to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be the sole source of gains for our common stockholders for the foreseeable future. Consequently, in the foreseeable future, our common stockholders will likely only experience a gain from their investment in our common stock if the price of our common stock increases.

If equity research analysts do not continue to publish research or reports about our business or if they issue unfavorable commentary or downgrade our common stock, the price of our common stock could decline.

The trading market for our common stock relies in part on the research and reports that equity research analysts publish about us and our business. We do not control these analysts. The price of our common stock could decline if one or more equity analysts downgrade our common stock or if analysts issue other unfavorable commentary or cease publishing reports about us or our business.

Anti-takeover provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law contain provisions which could have the effect of rendering more difficult, delaying or preventing an acquisition deemed undesirable by our board of directors. Our corporate governance documents include provisions:

- creating a classified board of directors whose members serve staggered three-year terms;
- authorizing “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend, and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors;
- controlling the procedures for the conduct and scheduling of board of directors and stockholder meetings; and
- providing our board of directors with the express power to postpone previously scheduled annual meetings and to cancel previously scheduled special meetings.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation law, which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our outstanding common stock.

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

Upon the closing of our IPO, all of the outstanding shares of our redeemable convertible preferred stock were converted into 15,077,621 shares of common stock. The shares of common stock issued pursuant to such conversion were issued in reliance on the exemption from registration provided by Section 3(a)(9) of the Securities Act, which exemption is available for transactions involving securities exchanged by the issuer with its existing security holders exclusively where no commission or other remuneration is paid or given directly or indirectly for soliciting such exchange.

No underwriters were used in the foregoing transactions.

Use of Proceeds from IPO

On June 24, 2014, we closed the sale of 6,900,000 shares of common stock to the public (inclusive of 900,000 shares of common stock sold by us pursuant to the full exercise of an overallotment option granted to the underwriters) at a price of $16.00 per share, before underwriting discounts. The offer and sale of the shares in our IPO was registered under the Securities Act pursuant to registration statements on Form S-1, which was filed with the SEC on January 31, 2014 (File No. 377-00464) and amended subsequently and declared effective by the SEC on June 18, 2014 (File No. 333-195391), and Form S-1MEF, which was filed with the SEC on June 18, 2014 (File No. 333-196891) and automatically effective upon filing. There has been no change in the use of proceeds from our IPO.

Item 6. Exhibits

The exhibits filed as part of this Quarterly Report on Form 10-Q are set forth on the Exhibit Index, which is incorporated herein by reference.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

ZAFGEN, INC.

November 13, 2015

By: /s/ Thomas E. Hughes
Thomas E. Hughes
Chief Executive Officer
(Principal Executive Officer)

November 13, 2015

By: /s/ Patricia L. Allen
Patricia L. Allen
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT INDEX

Exhibit No.	Description
31.1*	Certification of Principal Executive Officer pursuant to Exchange Act rules 13a-14 or 15d-14.
31.2*	Certification of Principal Financial Officer pursuant to Exchange Act rules 13a-14 or 15d-14.
32.1*	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Exchange Act rules 13a-14(b) or 15d-14(b) and 18 U.S.C. Section 1350.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Labels Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Link Document.

* Filed herewith.

Exhibit 31.1

Certification

I, Thomas E. Hughes, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the period ended September 30, 2015 of Zafgen, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2015

/s/ Thomas E. Hughes

Thomas E. Hughes
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification

I, Patricia L. Allen, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the period ended September 30, 2015 of Zafgen, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2015

/s/ Patricia L. Allen

Patricia L. Allen
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the quarterly report on Form 10-Q of Zafgen, Inc. (the "Company") for the period ended September 30, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers hereby certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that to his or her knowledge:

1) the Report which this statement accompanies fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 13, 2015

/s/ Thomas E. Hughes
Thomas E. Hughes
Chief Executive Officer
(Principal Executive Officer)

Date: November 13, 2015

/s/ Patricia L. Allen
Patricia L. Allen
Chief Financial Officer
(Principal Financial Officer)