

US Equity Research

8 January 2015

BUY

unchanged

PRICE TARGET US\$52.00↑

from US\$36.00

Price (8-Jan) US\$32.17

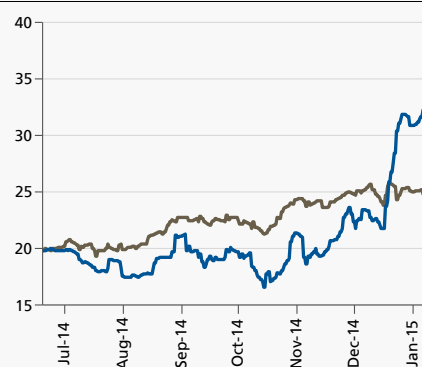
Ticker ZFGN-NASDAQ

52-Week Range (US\$):	16.51 - 32.17
Avg Daily Vol (M) :	115.2
Shares Out. (M) :	22.7
Market Cap. (US\$M):	730
Enterprise Value (US\$M):	388
Average Price Target (US\$):	36.75
Cash (US\$M):	127.03
# of analysts :	4

FYE Dec	2013A	2014E	2015E
Sales (US\$M)	0.0	0.0	0.0
EPS Adj&Dil (US\$)	(3.06)	(1.86)	(2.26)

Quarterly Sales	Q1	Q2	Q3	Q4
2013A	0.0	0.0	0.0	0.0
2014E	0.0A	0.0A	0.0A	0.0
2015E	-	-	-	-

Quarterly EPS Adj&Dil	Q1	Q2	Q3	Q4
2013A	(0.77)	-	-	-
2014E	(0.29)A	(0.28)A	(0.65)A	(0.65)
2015E	-	-	-	-



Source: FactSet

Zafgen has identified a cutting edge mechanism and molecule for severe obesity disorders entering Phase 3, and could have efficacy rivaling surgical procedures.

Corey Davis, PhD | Canaccord Genuity Inc. (US) | cdavis@canaccordgenuity.com | 212-389-8045

Lidia Liu | Canaccord Genuity Inc. (US) | lliu@canaccordgenuity.com | 212.389.8046

Raising Target Price

HIAO-5-Oh; raising target to \$52

Investment recommendation

Yesterday, Zafgen reported that the eight-week hypothalamic injury-associated obesity (HIAO) trial met its primary efficacy endpoint of weight reduction. Patients in the beloranib group experienced weight loss of 3.4kg and 6.2kg after four and eight weeks of treatment respectively, in line with our extrapolations based on data from the Ph2 Prader-Willi Syndrome (PWS) study. We find this incredibly impressive given the short time frame and the consistency across all animal and human studies to date. And we think this will be very predictive of the longer-term pivotal trials. Given that HIAO patients are very hard to treat, we think the positive outcome confirms the following: 1) although beloranib crosses the blood-brain-barrier, it acts peripherally on the liver to affect overall fat metabolism; 2) high efficacy; and 3) extremely fast onset. We also find it fascinating that although the hypothalamus is believed to play central role in weight control, the fact the drug worked so well in individuals with no hypothalamic function is proof that weight can be controlled through peripheral mechanisms – at least with beloranib. 20% weight loss at 6 months would be a home run for this drug if confirmed in pivotal trials, in our opinion.

Investment highlights

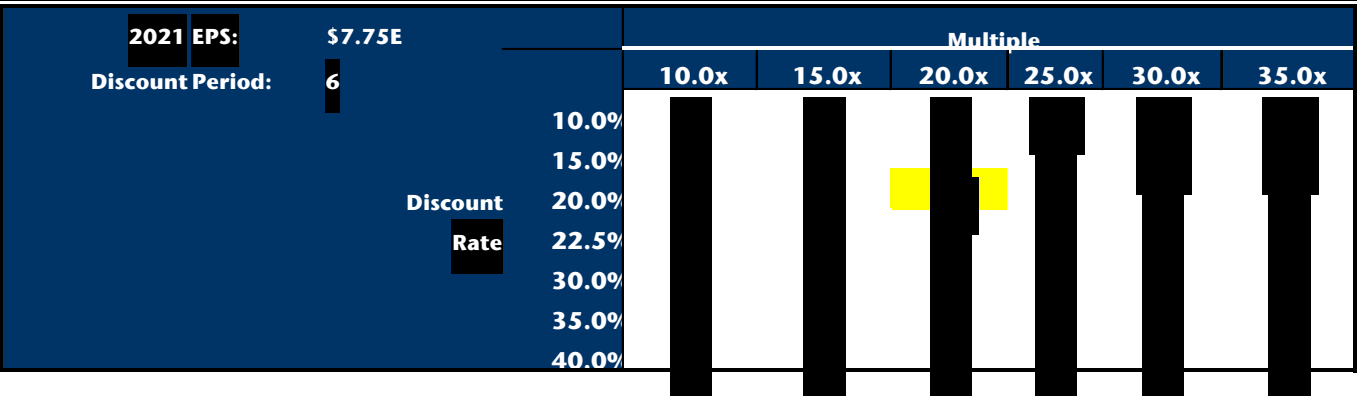
- **You'll lose weight faster if you're heavier?** Since HIAO and PWS patients generally have BMIs above 40, naysayers may argue that it's easier for them to shed weight in the first place. However this isn't the case as it's well-documented that such patients have hard times losing weight albeit being so obese.
- **Everything else is on track.** Enrollment of the Ph3 PWS trial is going as planned, with 6-month data expected by the end of the year. There's also been tremendous interest in the Ph2 diabetic obesity trial that was just initiated, with 6-month results also expected by year end. We expect enrollment updates to be provided during the 2014YE earnings call.

Valuation/risks

We raise our price target from \$36 to \$52 by changing the discount period from 6.5 to 6 years and lowering the discount rate from 25% to 20%. We use a discounted P/E model and a 20x multiple to our 2021 EPS estimate of \$7.75. Risks include: slow recruitment to clinical trials, hitting an efficacy plateau in trials beyond 24 weeks, and/or failure to gain FDA approval.

VALUATION

Figure 1: Price target sensitivity analysis by multiple and discount rate



Source: Canaccord Genuity Estimates

Figure 2: Zafgen summary P&L

(\$ In millions, except per share amount)

Year End: December 31	2012	2013	1Q14	2Q14	3Q14	4Q14E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Beloranib										\$0.0	\$121.8	\$365.2	\$474.9	\$562.5	\$660.1
Total Revenue										\$0.0	\$121.8	\$365.2	\$669.3	\$978.9	\$1,329.1
Gross Profit										\$0.0	\$109.6	\$328.7	\$602.4	\$881.0	\$1,196.2
Gross Margin										0.0%	90.0%	90.0%	90.0%	90.0%	90.0%
SG&A	\$2.2	\$4.2	\$1.2	\$1.3	\$2.3	\$2.5	\$7.3	\$12.0	\$15.0	\$20.0	\$25.0	\$50.0	\$200.0	\$250.0	\$275.0
R&D	\$11.5	\$9.6	\$3.3	\$4.7	\$12.1	\$8.0	\$28.0	\$40.0	\$45.0	\$65.0	\$100.0	\$150.0	\$165.0	\$132.0	\$118.8
Adj. Operating Income	(13.8)	(13.8)	(4.5)	(6.0)	(14.4)	(10.5)	(35.4)	(52.0)	(60.0)	(85.0)	(15.4)	128.7	237.4	499.0	802.4
Adj. Operating Margin												35.2%	35.5%	51.0%	60.4%
Non-Op	(0.1)	(0.2)	0.0	(0.5)	(0.3)	0.1	(0.7)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tax Rate														38.0%	38.0%
GAAP Net Income	(13.9)	(14.0)	(4.5)	(6.4)	(14.7)	(10.4)	(36.1)	(51.9)	(59.9)	(84.9)	(15.3)	128.7	237.5	309.4	497.5
Adj. Net Income	(13.8)	(13.6)	(4.5)	(6.4)	(14.7)	(10.4)	(36.1)	(51.9)	(59.9)	(84.9)	(15.3)	128.7	237.5	309.4	497.5
Net Margin												35.2%	35.5%	31.6%	37.4%
GAAP EPS (diluted)	(\$3.11)	(\$3.06)	(\$0.29)	(\$0.28)	(\$0.65)	(\$0.65)	(\$1.86)	(\$2.26)	(\$2.13)	(\$2.54)	(\$0.40)	\$3.29	\$6.00	\$7.75	\$12.33
Adjusted EPS (diluted)	(\$3.09)	(\$2.98)	(\$0.29)	(\$0.28)	(\$0.65)	(\$0.65)	(\$1.86)	(\$2.26)	(\$2.13)	(\$2.54)	(\$0.40)	\$3.29	\$6.00	\$7.75	\$12.33
Diluted Shares (M)	4.5	4.6	15.8	22.7	22.7	22.7	21.0	22.9	28.2	33.4	38.8	39.2	39.6	40.0	40.4
Year-over-Year Growth															
Beloranib												200%	30%	18%	17%
Total Revenue												200%	83%	46%	36%
Gross Profit											0%	200%	83%	46%	36%
SG&A			40%	0%	28%	0%	74%	64%	25%	33%	25%	100%	300%	25%	10%
R&D			24%	0%	40%	0%	193%	43%	13%	44%	54%	50%	10%	-20%	-10%
Operating Income													85%	110%	61%
Net Income													84%	30%	61%
Adj. EPS													83%	29%	59%

Source: Canaccord Genuity Estimates

Appendix: Important Disclosures

Analyst Certification

Each authoring analyst of Canaccord Genuity whose name appears on the front page of this research hereby certifies that (i) the recommendations and opinions expressed in this research accurately reflect the authoring analyst's personal, independent and objective views about any and all of the designated investments or relevant issuers discussed herein that are within such authoring analyst's coverage universe and (ii) no part of the authoring analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the authoring analyst in the research.

Analysts employed outside the US are not registered as research analysts with FINRA. These analysts may not be associated persons of Canaccord Genuity Inc. and therefore may not be subject to the NASD Rule 2711 and NYSE Rule 472 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

Compendium Report

If this report covers six or more subject companies, it is a compendium report and Canaccord Genuity and its affiliated companies hereby direct the reader to the specific disclosures related to the subject companies discussed in this report, which may be obtained at the following website (provided as a hyperlink if this report is being read electronically) <http://disclosures.canaccordgenuity.com/EN/Pages/default.aspx>; or by sending a request to Canaccord Genuity Corp. Research, Attn: Disclosures, P.O. Box 10337 Pacific Centre, 2200-609 Granville Street, Vancouver, BC, Canada V7Y 1H2; or by sending a request by email to disclosures@canaccordgenuity.com. The reader may also obtain a copy of Canaccord Genuity's policies and procedures regarding the dissemination of research by following the steps outlined above.

Target Price / Valuation Methodology:

Zafgen - ZFGN:

We use a discounted P/E model to derive our \$52 target; we apply a 20x multiple to our 2021 EPS estimate of \$7.75 discounted at 20% for 6 years.

Risks to achieving Target Price / Valuation:

Zafgen - ZFGN:

Delays in any of its three main programs due to regulatory concerns or logistical hurdles. Failure of beloranib in the Prader-Willi Syndrome Phase 3 program (due Q4 2015), the Phase 2 craniopharyngioma program (due Q1 2015), or the severe obesity P2b program (due Q4 2015). Failure to ultimately obtain FDA approval for beloranib in one or more of the three indications. Unforeseen safety signals that pop up due to beloranib's not-fully-understood mechanism and pleiotropic effects that create the potential for off-target interactions leading to unpredictable side effects. Failure to properly manufacture a more commercially viable injection presentation than the form currently used in clinical trials. Failure to obtain additional funding to finish development and commercialize beloranib.

Distribution of Ratings:

Global Stock Ratings (as of 01/08/15)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	654	60.72%	32.87%
Hold	328	30.45%	12.20%
Sell	43	3.99%	0%
Speculative Buy	52	4.83%	59.62%
	1077*	100.0%	

*Total includes stocks that are Under Review

Canaccord Genuity Ratings System

BUY: The stock is expected to generate risk-adjusted returns of over 10% during the next 12 months.

HOLD: The stock is expected to generate risk-adjusted returns of 0-10% during the next 12 months.

SELL: The stock is expected to generate negative risk-adjusted returns during the next 12 months.

NOT RATED: Canaccord Genuity does not provide research coverage of the relevant issuer.

"Risk-adjusted return" refers to the expected return in relation to the amount of risk associated with the designated investment or the relevant issuer.

Risk Qualifier

SPECULATIVE: Stocks bear significantly higher risk that typically cannot be valued by normal fundamental criteria. Investments in the stock may result in material loss.

Canaccord Genuity Company-Specific Disclosures (as of date of this publication)

Zafgen currently is, or in the past 12 months was, a client of Canaccord Genuity or its affiliated companies. During this period, Canaccord Genuity or its affiliated companies provided investment banking services to Zafgen

In the past 12 months, Canaccord Genuity or its affiliated companies have received compensation for Corporate Finance/Investment Banking services from Zafgen .

In the past 12 months, Canaccord Genuity or any of its affiliated companies have been lead manager, co-lead manager or co-manager of a public offering of securities of Zafgen or any publicly disclosed offer of securities of Zafgen or in any related derivatives.

Canaccord Genuity or one or more of its affiliated companies is a market maker or liquidity provider in the securities of Zafgen or in any related derivatives.

Canaccord Genuity or one or more of its affiliated companies intend to seek or expect to receive compensation for Corporate Finance/Investment Banking services from Zafgen in the next six months.

An analyst has visited the material operations of Zafgen. No payment was received for the related travel costs.

Zafgen Rating History as of 01/07/2015



General Disclosures

“Canaccord Genuity” is the business name used by certain wholly owned subsidiaries of Canaccord Genuity Group Inc., including Canaccord Genuity Inc., Canaccord Genuity Limited, Canaccord Genuity Corp., and Canaccord Genuity (Australia) Limited, an affiliated company that is 50%-owned by Canaccord Genuity Group Inc.

The authoring analysts who are responsible for the preparation of this research are employed by Canaccord Genuity Corp. a Canadian broker-dealer with principal offices located in Vancouver, Calgary, Toronto, Montreal, or Canaccord Genuity Inc., a US broker-dealer with principal offices located in New York, Boston, San Francisco and Houston, or Canaccord Genuity Limited., a UK broker-dealer with principal offices located in London (UK) and Dublin (Ireland), or Canaccord Genuity (Australia) Limited, an Australian broker-dealer with principal offices located in Sydney and Melbourne.

The authoring analysts who are responsible for the preparation of this research have received (or will receive) compensation based upon (among other factors) the Corporate Finance/Investment Banking revenues and general profits of Canaccord Genuity. However, such authoring analysts have not received, and will not receive, compensation that is directly based upon or linked to one or more specific Corporate Finance/Investment Banking activities, or to recommendations contained in the research.

Canaccord Genuity and its affiliated companies may have a Corporate Finance/Investment Banking or other relationship with the issuer that is the subject of this research and may trade in any of the designated investments mentioned herein either for their own account or the accounts of their customers, in good faith or in the normal course of market making. Accordingly, Canaccord Genuity or their affiliated companies, principals or employees (other than the authoring analyst(s) who prepared this research) may at any time have a long or short position in any such designated investments, related designated investments or in options, futures or other derivative instruments based thereon.

Some regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of research. This research has been prepared in accordance with Canaccord Genuity’s policy on

managing conflicts of interest, and information barriers or firewalls have been used where appropriate. Canaccord Genuity's policy is available upon request.

The information contained in this research has been compiled by Canaccord Genuity from sources believed to be reliable, but (with the exception of the information about Canaccord Genuity) no representation or warranty, express or implied, is made by Canaccord Genuity, its affiliated companies or any other person as to its fairness, accuracy, completeness or correctness. Canaccord Genuity has not independently verified the facts, assumptions, and estimates contained herein. All estimates, opinions and other information contained in this research constitute Canaccord Genuity's judgement as of the date of this research, are subject to change without notice and are provided in good faith but without legal responsibility or liability.

Canaccord Genuity's salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desk that reflect opinions that are contrary to the opinions expressed in this research. Canaccord Genuity's affiliates, principal trading desk, and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

This research is provided for information purposes only and does not constitute an offer or solicitation to buy or sell any designated investments discussed herein in any jurisdiction where such offer or solicitation would be prohibited. As a result, the designated investments discussed in this research may not be eligible for sale in some jurisdictions. This research is not, and under no circumstances should be construed as, a solicitation to act as a securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. This material is prepared for general circulation to clients and does not have regard to the investment objectives, financial situation or particular needs of any particular person. Investors should obtain advice based on their own individual circumstances before making an investment decision. To the fullest extent permitted by law, none of Canaccord Genuity, its affiliated companies or any other person accepts any liability whatsoever for any direct or consequential loss arising from or relating to any use of the information contained in this research.

For Canadian Residents:

This research has been approved by Canaccord Genuity Corp., which accepts sole responsibility for this research and its dissemination in Canada. Canadian clients wishing to effect transactions in any designated investment discussed should do so through a qualified salesperson of Canaccord Genuity Corp. in their particular province or territory.

For United States Residents:

Canaccord Genuity Inc., a US registered broker-dealer, accepts responsibility for this research and its dissemination in the United States. This research is intended for distribution in the United States only to certain US institutional investors. US clients wishing to effect transactions in any designated investment discussed should do so through a qualified salesperson of Canaccord Genuity Inc. Analysts employed outside the US, as specifically indicated elsewhere in this report, are not registered as research analysts with FINRA. These analysts may not be associated persons of Canaccord Genuity Inc. and therefore may not be subject to the NASD Rule 2711 and NYSE Rule 472 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

For United Kingdom and European Residents:

This research is distributed in the United Kingdom and elsewhere Europe, as third party research by Canaccord Genuity Limited, which is authorized and regulated by the Financial Conduct Authority. This research is for distribution only to persons who are Eligible Counterparties or Professional Clients only and is exempt from the general restrictions in section 21 of the Financial Services and Markets Act 2000 on the communication of invitations or inducements to engage in investment activity on the grounds that it is being distributed in the United Kingdom only to persons of a kind described in Article 19(5) (Investment Professionals) and 49(2) (High Net Worth companies, unincorporated associations etc) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended). It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. This material is not for distribution in the United Kingdom or elsewhere in Europe to retail clients, as defined under the rules of the Financial Conduct Authority.

For Jersey, Guernsey and Isle of Man Residents:

This research is sent to you by Canaccord Genuity Wealth (International) Limited (CGWI) for information purposes and is not to be construed as a solicitation or an offer to purchase or sell investments or related financial instruments. This research has been produced by an affiliate of CGWI for circulation to its institutional clients and also CGWI. Its contents have been approved by CGWI and we are providing it to you on the basis that we believe it to be of interest to you. This statement should be read in conjunction with your client agreement, CGWI's current terms of business and the other disclosures and disclaimers contained within this research. If you are in any doubt, you should consult your financial adviser.

CGWI is licensed and regulated by the Guernsey Financial Services Commission, the Jersey Financial Services Commission and the Isle of Man Financial Supervision Commission. CGWI is registered in Guernsey and is a wholly owned subsidiary of Canaccord Genuity Group Inc.

For Australian Residents:

This research is distributed in Australia by Canaccord Genuity (Australia) Limited ABN 19 075 071 466 holder of AFS Licence No 234666. To the extent that this research contains any advice, this is limited to general advice only. Recipients should take into account their own personal circumstances before making an investment decision. Clients wishing to effect any transactions in any financial

products discussed in the research should do so through a qualified representative of Canaccord Genuity (Australia) Limited. Canaccord Genuity Wealth Management is a division of Canaccord Genuity (Australia) Limited.

For Singapore Residents:

This research is distributed pursuant to 32C of the Financial Advisers under an arrangement between each of the Canaccord Genuity entities that publish research and Canaccord Genuity Singapore Pte. Ltd who are an exempt financial adviser under section 23(1)(d) of the Financial Advisers Act. This research is only intended for persons who fall within the definition of accredited investor, expert investor or institutional investor as defined under section 4A of the Securities and Futures Act. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. Recipients of this report can contact Canaccord Genuity Singapore Pte. Ltd. (Contact Person: Tom Gunnersen's tel # is +852 3919 2561) in respect of any matters arising from, or in connection with, the [analyses or report].

For Hong Kong Residents:

This research is distributed in Hong Kong by Canaccord Genuity (Hong Kong) Limited who is licensed by the Securities and Futures Commission. This research is only intended for persons who fall within the definition of professional investor as defined in the Securities and Futures Ordinance. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. Recipients of this report can contact Canaccord Genuity (Hong Kong). Ltd. (Contact Person: Tom Gunnersen's tel # is +852 3919 2561) in respect of any matters arising from, or in connection with, the research.

Additional information is available on request.

Copyright © Canaccord Genuity Corp. 2015 . – Member IIROC/Canadian Investor Protection Fund

Copyright © Canaccord Genuity Limited 2015 . – Member LSE, authorized and regulated by the Financial Conduct Authority.

Copyright © Canaccord Genuity Inc. 2015 . – Member FINRA/SIPC

Copyright © Canaccord Genuity (Australia) Limited 2015 . – Participant of ASX Group, Chi-x Australia and of the NSX. Authorized and regulated by ASIC.

All rights reserved. All material presented in this document, unless specifically indicated otherwise, is under copyright to Canaccord Genuity Corp., Canaccord Genuity Limited, Canaccord Genuity Inc or Canaccord Genuity Group Inc. None of the material, nor its content, nor any copy of it, may be altered in any way, or transmitted to or distributed to any other party, without the prior express written permission of the entities listed above.