CANACCORD Genuity

To us there are no foreign markets.™

Zafgen

Specialty Pharmaceuticals

US Equity Research
12 May 2015

BUY
unchanged

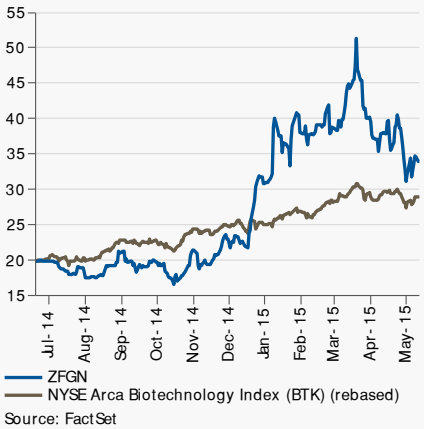
PRICE TARGET	US$53.00↓
from US$58.00	
Price (12-May)	US$34.23
Ticker	ZFGN-NASDAQ

52-Week Range (US$):	16.51 - 51.34
Avg Daily Vol (M) :	193.3
Shares Out. (M) :	22.7
Market Cap (US$M):	777
Enterprise Value (US$M):	388
Average Price Target (US$):	57.83
Cash (US$M):	244.96
Short Interest :	972,358
# of analysts :	6

FYE Dec	2014A	2015E	2016E
Sales (US$M)	0.0	0.0	0.0
EPS Adj&Dil (US$)	(3.00)	(2.88)↑	(2.58)↑
Previous	*(3.00)*	*(3.00)*	*(2.85)*

Quarterly Sales	Q1	Q2	Q3	Q4
2014A	0.0	0.0	0.0	0.0
2015E	0.0A	0.0	0.0	0.0
2016E	0.0	0.0	0.0	0.0

Quarterly EPS Adj&Dil	Q1	Q2	Q3	Q4
2014A	(0.29)	(2.96)	(0.65)	(0.48)
2015E	(0.53)A	(0.71)	(0.78)	(0.86)
2016E	-	-	-	-



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

Lowering Target Price

Not much of a delay after all

Investment recommendation

Zafgen reported Q1 EPS of ($0.53), beating our estimate of ($0.62). With more than $234M cash in the vault, the company has enough to fund operations for the next 18 months. During the last earnings call, it was announced that data from the Ph3 Prader-Willi Syndrome (PWS) trial would be delayed by a couple of months to a 2Q2016 read-out. But due to unexpectedly fast patient enrollment, the delay is now reduced, with top-line results to be released in the first quarter. As for the ZAF-203 Ph2b trial in diabetic patients, two-thirds of patients have been enrolled, and the 6-month interim data is still on track for late 2015 or early 2016. After minor model tweaks (mostly by ramping up R&D and share count), we lower our price target from $58 to $53.

Investment highlights

- **PWS Ph3 changes.** Following a series of meetings with the FDA, two important changes were made to the trial's efficacy endpoints, and everything is now finalized: 1) one of the original primary endpoints was reduction in body fat, as assessed by DEXA (dual X-ray absorptiometry). Since the agency is uncomfortable using radiographic measures to gauge efficacy, this has been replaced with straight forward reduction in body weight; and 2) both hyperphagia-related behavior. These two will be co-primary efficacy endpoints, as opposed to dual-primary endpoints. This modification has no effect on how the trial will be conducted or powering of the study (at 90% for either scenario). We also don't see the new design being a hard goal to hit since both endpoints were met with statistical significant in the much smaller Ph2.
- **A pipeline is emerging.** In addition to beloranib, Zafgen's ZGN-839, a second generation MetAP2 inhibitor will have an IND filed in the middle of the year for treating nonalcoholic steatohepatitis (NASH).

Valuation/risks

We use a discounted P/E model to derive our $53 target. We apply at 22.5x off our 2021 EPS of $7.10 and discounting back at 20% of six years. Risks include: slowing of clinical trial, hitting a weight loss "plateau" beyond 12 weeks like as been seen in other obesity drugs, and/or failure to gain FDA approval.

VALUATION

Figure 1: Zafgen discounted P/E multiple derives $53 target price

2021 EPS:	$7.10		Multiple					
Discount Period:	6		17.5x	20.0x	22.5x	25.0x	27.5x	30.0x
		10.0%	$70	$80	$90	$100	$110	$120
		15.0%	$54	$61	$69	$77	$84	$92
	Discount	20.0%	$42	$48	**$53**	$59	$65	$71
	Rate	22.5%	$37	$42	$47	$53	$58	$63
		30.0%	$26	$29	$33	$37	$40	$44
		35.0%	$21	$23	$26	$29	$32	$35
		40.0%	$16	$19	$21	$24	$26	$28

Source: Company Reports, Canaccord Genuity estimates

Q1 RESULTS –CHANGES TO OUR ESTIMATES

Figure 2: Changes to our estimates

($ in millions, except for EPS)	2015E			2016E			2017E		
Year End: December	OLD	NEW	VARIANCE	OLD	NEW	VARIANCE	OLD	NEW	VARIANCE
Beloranib	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Son of Beloranib	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
SG&A	$22.0	$21.0	(1.0)	$25.0	$25.0	0.0	$30.0	$30.0	0.0
R&D	46.0	52.2	6.2	55.0	55.0	0.0	65.0	65.0	0.0
Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Adj. Net Income	68.6	(73.9)	-142.5	(79.9)	(79.9)	0.0	(94.9)	(94.9)	0.0
Net Margin	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Adj. EPS	**($3.00)**	**($2.88)**	**$0.12**	**($2.85)**	**($2.58)**	**$0.27**	**$2.85**	**($2.62)**	**($5.47)**
Shares Out. (MM)	22.8	25.7	2.9	28.1	30.9	2.8	33.3	36.3	3.0

Source: Company Reports, Canaccord Genuity estimates

Figure 3: Zafgen summary P&L

($ In millions, except per share amount)

Year End: December 31	2012	2013	2014	1Q15	2Q15E	3Q15E	4Q15E	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	$8.1	$3.0	$5.0	$6.0	$7.0	$21.0	$25.0	$30.0	$35.0	$75.0	$200.0	$250.0	$275.0
R&D	$11.5	$9.6	$27.4	$10.2	$13.0	$14.0	$15.0	$52.2	$55.0	$65.0	$100.0	$150.0	$165.0	$140.3	$126.2
Adj. Operating Income	**(13.8)**	**(13.8)**	**(35.5)**	**(13.2)**	**(18.0)**	**(20.0)**	**(22.0)**	**(73.2)**	**(80.0)**	**(95.0)**	**(25.4)**	**103.7**	**237.4**	**490.8**	**795.0**
Adj. Operating Margin												*28.4%*	*35.5%*	*50.1%*	*59.8%*
Non-Op	(0.1)	(0.2)	(1.0)	(0.2)	(0.2)	(0.1)	(0.1)	(0.6)	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)	(36.6)	(13.5)	(18.2)	(20.1)	(22.1)	(73.9)	(79.9)	(94.9)	(25.3)	103.7	237.5	304.3	492.9
Adj. Net Income	(13.8)	(13.6)	(36.6)	(13.5)	(18.2)	(20.1)	(22.1)	(73.9)	(79.9)	(94.9)	(25.3)	103.7	237.5	304.3	492.9
Net Margin												*28.4%*	*35.5%*	*31.1%*	*37.1%*
GAAP EPS (diluted)	($3.11)	($3.06)	($3.00)	($0.53)	($0.71)	($0.78)	($0.86)	($2.88)	($2.58)	($2.62)	($0.61)	$2.47	$5.59	$7.10	$11.38
Adjusted EPS (diluted)	**($3.09)**	**($2.98)**	**($3.00)**	**($0.53)**	**($0.71)**	**($0.78)**	**($0.86)**	**($2.88)**	**($2.58)**	**($2.62)**	**($0.61)**	**$2.47**	**$5.59**	**$7.10**	**$11.38**
Diluted Shares (M)	4.5	4.6	12.2	25.6	25.6	25.7	25.7	25.7	30.9	36.3	41.6	42.0	42.5	42.9	43.3
Year-over-Year Growth															
Beloranib												200%	30%	18%	17%
Total Revenue												**200%**	**83%**	**46%**	**36%**
Gross Profit											0%	*200%*	83%	46%	36%
SG&A			*93%*	*143%*	*287%*	*163%*	*111%*	*158%*	*19%*	*20%*	*17%*	*114%*	167%	25%	10%
R&D			*186%*	*212%*	*177%*	*16%*	*104%*	*91%*	*5%*	*18%*	*54%*	*50%*	10%	-15%	-10%
Operating Income													129%	107%	62%
Net Income													129%	28%	62%
Adj. EPS													***127%***	***27%***	***60%***

Source: Company Reports, 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.

Target Price / Valuation Methodology:

Zafgen - ZFGN

We use a discounted P/E model to derive our $53 target. We apply at 22.5x off our 2021 EPS of $7.10 and discounting back at 20% of six 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 05/12/15)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	577	57.99%	32.24%
Hold	335	33.67%	16.12%
Sell	38	3.82%	2.63%
Speculative Buy	45	4.52%	55.56%
	995*	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 .

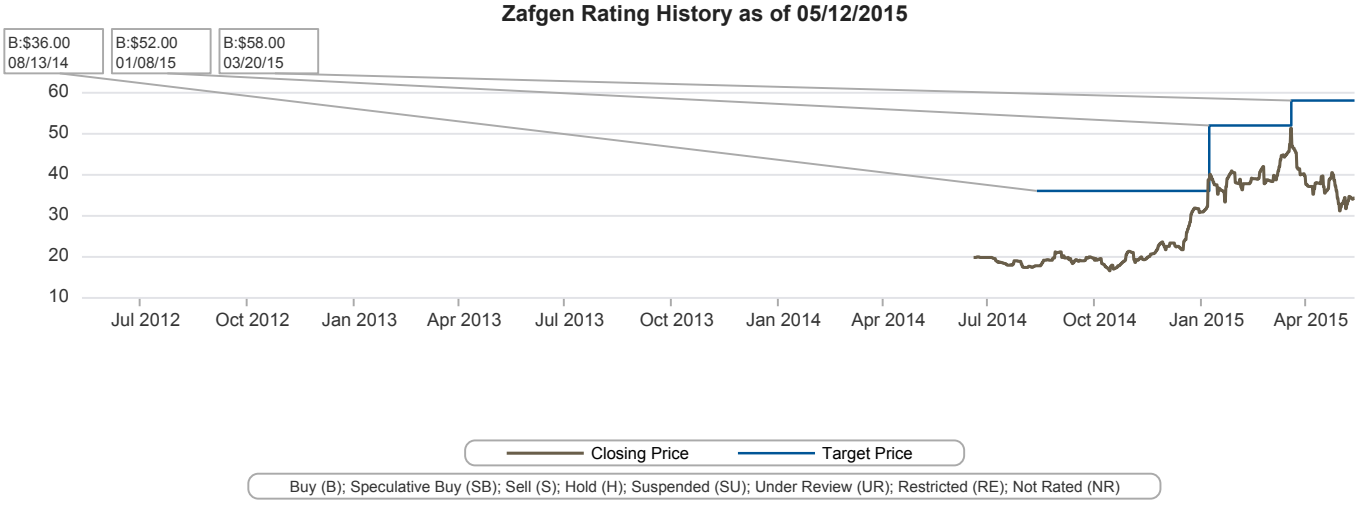
In the past 12 months, Canaccord Genuity or any of its affiliated companies have been lead manager, co-lead manager or co-manager of a public offering of securities of Zafgen or any publicly disclosed offer of securities of Zafgen or in any related derivatives.

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 05/12/2015



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.