

## Viking Therapeutics (VKTX - \$3.02)

### Robust VK5211 in Post Hip Fracture Surgery Phase II Study Data Enable Asset Appreciation and Potential Favorable Partnership

VKTX reported yesterday the positive VK5211 in post hip fracture surgery Phase II study results as the study met all primary endpoints and several secondary endpoints. VK5211 demonstrated convincingly that the drug has potent activities in increasing lean body mass in an elderly population.

- Details.** The study met the primary endpoint of increasing lean body mass, less head, at a dose dependent manner after 12 weeks of treatment. Specifically, placebo-adjusted increases in lean body mass were 4.8% at 0.5 mg ( $p < 0.005$ ), 7.2% at 1.0 mg ( $p < 0.001$ ), and 9.1% at 2.0 mg ( $p < 0.001$ ). The corresponding placebo-adjusted weight increases were 1.6 kg at 0.5 mg ( $p < 0.005$ ), 2.5 kg at 1.0 mg ( $p < 0.001$ ), and 3.1 kg at 2.0 mg ( $p < 0.001$ ). The proportion of patients experiencing  $\geq 5\%$  increase in total lean body mass were 19% (placebo), 61% (0.5 mg), 65% (1.0 mg), and 75% (2.0 mg) and  $p < 0.01$  for each. The proportion of patients gained  $\geq 2.0$  kg gain in total lean body mass were 14% (placebo), 57% (0.5 mg), 65% (1.0 mg), and 81% (2.0 mg) with  $p < 0.01$  for each. For all lean body mass measurements that include head, VK5211 at all doses also showed statistically significant increases. Secondary endpoints of functional performance, including the 6MW test and short physical performance battery showed trending positively but not reached statistically significant changes compared with placebo. Safety profile is acceptable with no drug-related SAEs were observed in patients receiving. Full dataset from the Phase II study could potentially reported at the ASBMR 2018 annual meeting scheduled 9/28 – 10/1.
- Implications.** We view the VK5211 Phase II study readout as compelling and much better than the Street expected. It demonstrated that the drug clearly has activities increasing muscle mass – a positive sign as it could lead to functional improvement post hip surgery. Given the large clinical studies needed for the pivotal trials and drug treatment for improving post hip surgery outcomes is a relatively novel clinical approach without a clearly established clinical path at the moment, we anticipate VKTX will seek a partner in developing it before advancing the program forward. The positive Phase II outcome has increased the value of VK5211 and potentially pave the way for a more favorable deal going forward.
- Action.** We are reiterating our Buy rating and target price of \$10. Our valuation is based on peer comparable, probability adjusted DCF and sum-of-the-parts analyses. Outcomes of the two POC clinical studies in 2017 and 2018, if positive, could increase VKTX share value significantly, in our opinion.

#### Earnings Estimates: (per share)

(Dec)	1Q	2Q	3Q	4Q	FY	P/E
<b>FY-17E</b>	-0.23A	-0.21A	-0.22A	-0.19	-0.85	N.A.
<b>FY-16A</b>	-0.40	-0.22	-0.20	-0.18	-0.90	N.A.
<b>FY-15A</b>	-1.40	-1.07	-0.53	-0.56	-3.68	N.A.
<b>FY-14A</b>	-0.07	3.88	-3.01	-2.01	-5.23	N.A.

Source: Laidlaw & Company estimates

Healthcare/Biotechnology

Ticker:	<b>VKTX</b>
Rating:	<b>Buy</b>
Price Target:	<b>\$10.00</b>

#### Trading Data:

Last Price (11/28/2017)	\$3.02
52-Week High (10/20/2017)	\$3.24
52-Week Low (8/2/2017)	\$0.88
Market Cap. (MM)	\$80
Shares Out. (MM)	16.278

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## Anticipated milestones in 2017 and beyond

Product	Indication	Event	Timing	Importance
VK5211	Hip fracture	Report Phase IIa study full dataset results	2H18	***
VK0214	X-Linked Adrenoleukodystrophy (X-ALD)	Potentially report preclinical study results	3Q18	***
VK2809	Cholesterolemia / NASH	Report MGL-3196 in NASH Phase II trial top-line results	4Q17	****
		Potentially report Phase II study results	1H18	****
	Glycogen storage disease type Ia (GSD Ia).	Potentially start Phase II study	4Q17	***

\*\*\*\* / \*\*\*\*\* Major catalyst event that could impact share price very significantly while \*\*\* event is more informative

Source: Laidlaw & Company and company presentation

## Major Risks

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**Risks of clinical study failure could have a major impact on VKTX share value.** Despite promising aspects of the company's lead products, VK5211 in the post hip fracture surgery rehabilitation and thyroid- $\beta$  agonists (VK2809 / VK0214) in X-ALD, it remains too early to predict the safety and efficacy from the two upcoming Phase I and Phase II studies. Given that clinical validation or POC for these programs has not been established, it would be critical for these studies to demonstrate a positive outcome in order to increase the asset and shareholder value. Negative results of either clinical study could potentially impair their value and have a materially negative impact on shareholder value, especially since success of each study could illustrate the value of VK5211 in hip fracture rehabilitation and thyroid- $\beta$  agonists in X-ALD. Further, it remains too early to predict any potential future success of clinical trials should these programs further advance into next stage clinical stage development. In thyroid- $\beta$  agonists in X-ALD, although it is possible that the drug could reduce or eliminate VLCFA, it remains too early to forecast that the drug could slow and stop the progression of symptoms to provide clinical benefits.

**Product may not be approved or reach anticipated sales.** Although Viking's current pipeline products have exhibited the potential to generate positive clinical outcomes from current and future trials; it remains too early to project whether any of these products would be approved by regulatory agencies. Even if the products were to enter the market, sales could be significantly below projections due to the specific product label under approval, physician consensus for prescribing the drug, changes of treatment paradigms, entrance of competitors, and possibly the changes in pricing flexibility and payer reimbursement. A revenue outlook below expectations could also negatively affect VKTX shareholder value.

**Positive relationship with Ligand is important.** Given that Viking is substantially dependent on technologies and drug candidates licensed from Ligand for further development, it would be important for the company to maintain a positive relationship with Ligand. If Viking loses the right to license these technologies and drug candidates or the Master License Agreement with Ligand is terminated for any reason, VKTX's ability to develop existing and new drug candidates would be harmed.

**Additional financings could dilute shareholder value.** Although the company currently has ~\$14MM cash, VKTX could need more financial resources going forward if they want to expand and further develop its pipeline. Should the product not receive FDA approval, or product revenue does not reach expectations; the company might need to issue new equity to raise additional cash. Under such a scenario, the share value of existing shareholders could be diluted.

**Limited trading liquidity limits shareholder options.** Given VKTX shares only entered the public market recently; daily trading volume and name recognition are relatively modest. With relatively illiquid trading volume, shareholders wanting to increase or reduce their positions in a volatile stock market may face constraints.

**Figure 1: Income Statement**

<b>Viking Therapeutics – Income Statement</b>													
(\$',000)	2013	2014	2015	2016	1Q17	2Q17	3Q17	4Q17E	2017E	2018E	2019E	2020E	2021E
<b>Revenue</b>													
Product revenue	0.0	0.0	0	0	-	-	-	-	0	0	88,989	297,528	626,498
Other revenue	0.0	0.0	0	0	-	-	-	-	0	0	0	0	0
Total revenue	0.0	0.0	0	0	-	-	-	-	0	0	88,989	297,528	626,498
<b>Costs of goods</b>											10,679	35,703	75,180
Gross sales											78,310	261,825	551,318
Research and development	(12)	(22,223)	(6,967)	(9,000)	(3,528)	(3,715)	(3,465)	(3,707)	(14,415)	(20,037)	(21,841)	(23,588)	(25,239)
General and administrative	(89)	(1,245)	(5,030)	(4,846)	(1,441)	(1,267)	(1,227)	(1,276)	(5,211)	(5,471)	(5,745)	(6,032)	(6,334)
Marketing and sales											(31,000)	(54,250)	(59,675)
<b>Total Operating Expenses</b>	(101)	(23,468)	(11,996)	(13,846)	(4,969)	(4,983)	(4,692)	(4,983)	(19,626)	(25,509)	(58,586)	(83,870)	(91,248)
<b>Operating Incomes (losses)</b>	(101)	(23,468)	(11,996)	(13,846)	(4,969)	(4,983)	(4,692)	(4,983)	(19,626)	(25,509)	30,403	213,658	535,250
Change in fair value of accrued license fees	0	(1,822)	(9,382)	0	0	0	0	0	0	0	0	0	0
Change in fair value of debt conversion features	21	(391)	(1,043)	1,064	278	571	(1,136)	220	(68)	(500)	(500)	(500)	(500)
Amortization of debt discount	18	558	(894)	(1,788)	(431)	(337)	(257)	(432)	(1,456)	(1,456)	(1,456)	(1,456)	(1,456)
Amortization of financing costs				(139)	(98)	(422)	(18)	(45)	(583)				
Interest expense	6	71	(89)	(22)	(2)	(1)	2	(3)	(4)	(4)	(4)	(4)	(4)
Total other (income) expenses	45	(1,584)	(11,408)	(885)	(253)	(189)	(1,408)	(260)	(2,110)	(1,960)	(1,960)	(1,960)	(1,960)
Loss before tax	(146)	(21,884)	(23,404)	(14,731)	(5,222)	(5,172)	(6,100)	(5,243)	(21,736)	(23,549)	32,363	215,618	537,210
Tax	0	0	0	0	-	-	-	-	0	0	(11,974)	(79,779)	(198,768)
<b>Net Income (Loss)</b>	(146)	(21,884)	(23,404)	(14,731)	(5,222)	(5,172)	(6,100)	(5,243)	(21,736)	(23,549)	20,389	135,840	338,443
Unrealized gain on securities				0	(1)	2	2	1	4				
Net Income (Loss) Applicable to Common Shareholders	(146)	(21,884)	(23,404)	(14,731)	(5,222)	(5,170)	(6,097)	(5,242)	(21,736)	(23,549)	20,389	135,840	338,443
Net Earnings (Losses) Per Share—Basic	(\$0.07)	(\$5.23)	(\$3.68)	(\$0.90)	(\$0.23)	(\$0.21)	(\$0.22)	(\$0.19)	(\$0.85)	(\$0.86)	\$0.63	\$4.19	\$10.44
Net Earnings (Losses) Per Share—Diluted	(\$0.07)	(\$5.23)	(\$3.68)	(\$0.90)	(\$0.23)	(\$0.21)	(\$0.22)	(\$0.19)	(\$0.85)	(\$0.86)	\$0.63	\$4.19	\$10.44
Shares outstanding—basic	2,043	4,187	6,356	16,278	22,353	24,119	27,470	27,770	25,428	27,428	32,428	32,431	32,433
Shares outstanding—diluted	2,043	4,187	6,356	16,278	22,353	24,119	27,470	27,770	25,428	27,428	32,428	32,431	32,433
<b>Margin Analysis (% of Sales/Revenue)</b>													
Costs of goods											12%	12%	12%
R&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-25%	-8%	-4%
SG&A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-6%	-2%	-1%
Operating Income (loss)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34%	72%	85%
Net Income	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23%	46%	54%
<b>Financial Indicator Growth Analysis (YoY%)</b>													
Total Revenue	-100%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	234%	111%
R&D	-83%	191264%	-69%	29%	88%	57%	65%	40%	60%	39%	9%	8%	7%
SG&A	119%	1292%	304%	-4%	4%	5%	6%	17%	8%	5%	5%	5%	5%
Marketing and sales												75%	10%
Operating Income (Losses)	-8%	23118%	-49%	15%	52%	39%	44%	33%	42%	30%	-219%	603%	151%
Pretax Income	32%	14864%	7%	-37%	46%	40%	60%	44%	48%	8%	-237%	566%	149%
Net Income	32%	14864%	7%	-37%	46%	40%	60%	44%	48%	8%	-187%	566%	149%
EPS	-4%	7202%	-30%	-75%	-41%	-1%	11%	3%	-6%	0%	-173%	566%	149%

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

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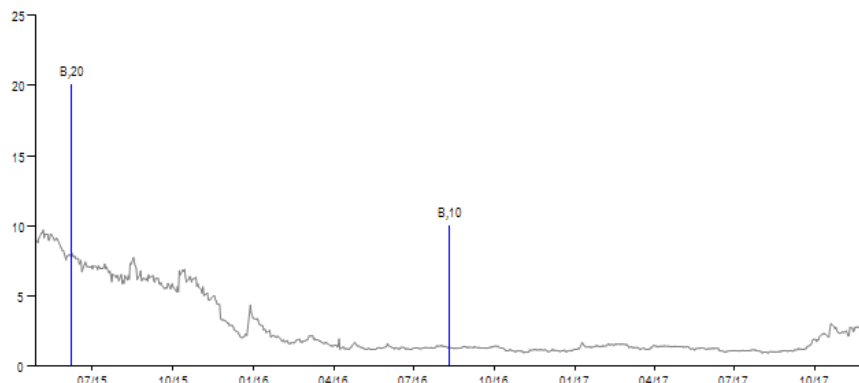
**RATINGS INFORMATION****Rating and Price Target Change History****3 Year Rating Change History**

Date	Rating	Closing Price (\$)
06/08/2...	Buy (B)	8.02

**3 Year Price Change History**

Date	Target Price (\$)	Closing Price, (\$)
06/08/2...	20.00	8.02
08/11/2...	10.00	1.27

VKTX: Stock Price Vs. Rating & Target Price Changes (\$) (04-29-2015 thru 11-29-2017)



Source: Laidlaw &amp; Company

Created by: Blue-Compass.net

Laidlaw & Company Rating System*		% of Companies Under Coverage With This Rating	% of Companies for which Laidlaw & Company has performed services for in the last 12 months	
			Investment Banking	Brokerage
<b>Strong Buy (SB)</b>	Expected to significantly outperform the sector over 12 months.	0.00%	0.00%	0.00%
<b>Buy (B)</b>	Expected to outperform the sector average over 12 months.	66.00%	30.00%	2.00%
<b>Hold (H)</b>	Expected returns to be in line with the sector average over 12 months.	4.00%	0.00%	0.00%
<b>Sell (S)</b>	Returns expected to significantly underperform the sector average over 12 months.	0.00%	0.00%	0.00%

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