

Viking Therapeutics (VKTX - \$2.08)

Hip Fracture KOL Meeting on Unmet Need and Therapies

Yesterday, VKTX hosted a KOL meeting discussing the hip fracture therapy landscape and unmet needs. Key highlights include:

- **Substantial unmet needs for post hip fracture recovery.** Dr. Jay Magaziner of the University of Maryland School of Medicine highlighted that currently, 285K hospitalizations of patients ≥ 65 -years-old were due to hip fracture each year. The percentage of hip fractures of this age group is expected to increase from 13% in 2000 to 20% in 2050. Further in females, survival after hip fracture has decreased from 86% after 1 year to 77% after 2 years; while in males, the projection is 68% to 58%. Patients usually lost total body lean mass during the first six months post-surgery; while recovery of body function (like lower extremity activities) mainly by physical therapy would level off after 6 months and does not reach the level prior to injury. Hip fracture has a strong negative impact on seniors' daily physical and psychological functionality, and recovery is limited under the current standard of care. The value proposition for therapy like VK5211 is to restore function back to a level comparable to normal age matched level (Figure 1).
- **Composite clinical endpoints with objective and subjective readouts could be the one for pivotal studies.** Given the lack of precedents so far, investors are interested in gaining a better understanding of the potential design for a pivotal hip fracture trial. Dr. Jack Guralnik of University of Maryland School of Medicine highlighted their work and interactions with the FDA. This suggested that functional limitation tests, such as gait speed, short physical performance battery (SPPB) and patient questionnaires like SF-36 could be some of the endpoint options for pivotal studies. The SF-36 has eight subscales, including assessments of physical function, physical role behaviors, bodily pain, mental health, social role, emotional role, vitality and general health. The potential value is that it encompasses both objective and subjective readouts to possibly better reflect the benefits of therapy. We believe the FDA currently is still assessing those options.
- **If approved, VK5211 could be best used shortly after surgery.** Physicians like Dr. Neil Binkley of University of Wisconsin School of Medicine suggested, if approved, a drug like VK5211 should be used shortly after surgery to boost patient's functional recovery on top of the standard care, such as physical therapy.
- **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 potentially available 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 |
|---------------|--------|--------|-------|-------|-------|------|
| FY-17E | -0.23A | -0.21A | -0.24 | -0.23 | -0.92 | N.A. |
| FY-16A | -0.40 | -0.22 | -0.20 | -0.18 | -0.90 | N.A. |
| FY-15A | -1.40 | -1.07 | -0.53 | -0.56 | -3.68 | N.A. |
| FY-14A | -0.07 | 3.88 | -3.01 | -2.01 | -5.23 | N.A. |

Source: Laidlaw & Company estimates

Healthcare/Biotechnology

Ticker: **VKTX**
Rating: **Buy**
Price Target: **\$10.00**

Trading Data:

| | |
|--------------------------|--------|
| Last Price (10/9/2017) | \$2.08 |
| 52-Week High (10/9/2017) | \$2.44 |
| 52-Week Low (8/2/2017) | \$0.88 |
| Market Cap. (MM) | \$62 |
| Shares Out. (MM) | 16.278 |

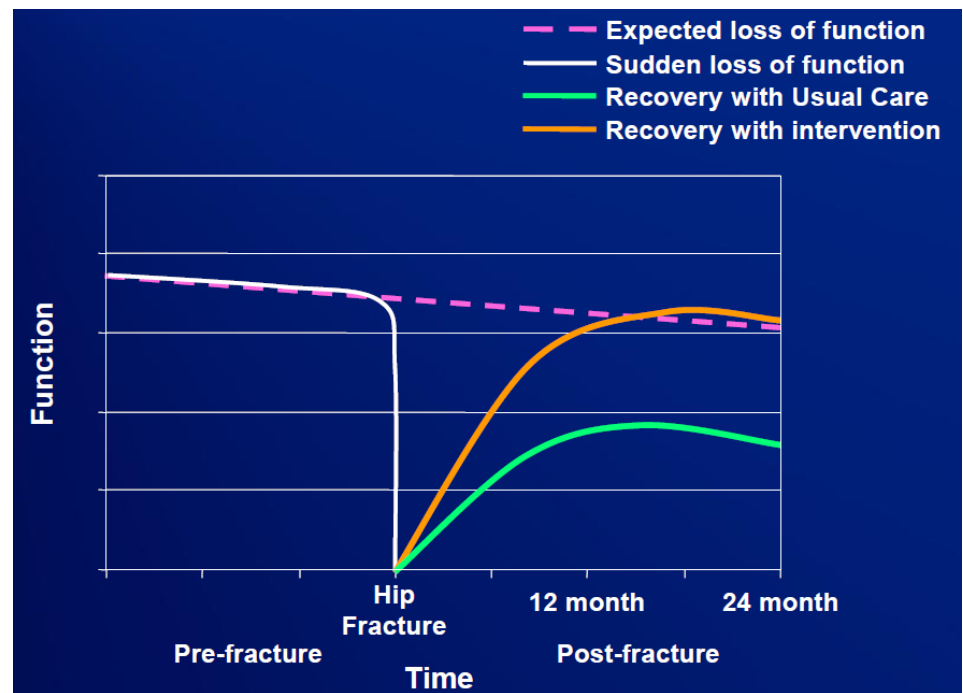
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- **Bone and muscle recovery are equally important.** Although weakened bone caused by osteoporosis could increase the propensity for hip fracture, more than half of women sustain non-vertebral fractures do not have osteoporosis based on the BMD readings. As such, the KOL suggested medication that could also enhance muscle function would have great value in facilitating hip fracture recovery.
- **VK5211 in post hip fracture surgery Phase II study data readout on track for 4Q17.** VKTX is currently cleaning out the raw clinical data before locking the database. As such, our discussion with management suggested that the reporting of VK5211 in post hip fracture surgery Phase II study outcome remains on track, likely in mid to late 4Q17.

Figure 1: Value proposition of medical intervention for post hip fracture recovery



Source: Company report.

Anticipated milestones in 2017 and beyond

| Product | Indication | Event | Timing | Importance |
|---------|--|--|--------|------------|
| VK5211 | Hip fracture | Report Phase IIa study results | 4Q17 | **** |
| VK0214 | X-Linked Adrenoleukodystrophy (X-ALD) | Potentially report preclinical study results | 3Q18 | *** |
| VK2809 | Cholesterolemia / NASH | 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

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- β 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- β 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- β 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

| Viking Therapeutics – Income Statement | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| (\$',000) | 2013 | 2014 | 2015 | 2016 | 1Q17 | 2Q17 | 3Q17E | 4Q17E | 2017E | 2018E | 2019E | 2020E | 2021E |
| Revenue | | | | | | | | | | | | | |
| 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 |
| Costs of goods | | | | | | | | | | | 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) | (3,901) | (4,174) | (15,319) | (21,293) | (23,210) | (25,066) | (26,821) |
| General and administrative | (89) | (1,245) | (5,030) | (4,846) | (1,441) | (1,267) | (1,318) | (1,371) | (5,397) | (5,667) | (5,950) | (6,247) | (6,560) |
| Marketing and sales | | | | | | | | | | | (31,000) | (54,250) | (59,675) |
| Total Operating Expenses | (101) | (23,468) | (11,996) | (13,846) | (4,969) | (4,983) | (5,219) | (5,545) | (20,716) | (26,960) | (60,160) | (85,564) | (93,056) |
| Operating Incomes (losses) | (101) | (23,468) | (11,996) | (13,846) | (4,969) | (4,983) | (5,219) | (5,545) | (20,716) | (26,960) | 28,829 | 211,964 | 533,442 |
| 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 | (130) | 220 | 938 | (500) | (500) | (500) | (500) |
| Amortization of debt discount | 18 | 558 | (894) | (1,788) | (431) | (337) | (432) | (432) | (1,632) | (1,632) | (1,632) | (1,632) | (1,632) |
| Amortization of financing costs | | | | (139) | (98) | (422) | (45) | (45) | (610) | | | | |
| Interest expense | 6 | 71 | (89) | (22) | (2) | (1) | (3) | (3) | (9) | (9) | (9) | (9) | (9) |
| Total other (income) expenses | 45 | (1,584) | (11,408) | (885) | (253) | (189) | (610) | (260) | (1,312) | (2,141) | (2,141) | (2,141) | (2,141) |
| Loss before tax | (146) | (21,884) | (23,404) | (14,731) | (5,222) | (5,172) | (5,829) | (5,805) | (22,028) | (24,819) | 30,970 | 214,105 | 535,583 |
| Tax | 0 | 0 | 0 | 0 | - | - | - | - | 0 | 0 | (11,459) | (79,219) | (198,166) |
| Net Income (Loss) | (146) | (21,884) | (23,404) | (14,731) | (5,222) | (5,172) | (5,829) | (5,805) | (22,028) | (24,819) | 19,511 | 134,886 | 337,417 |
| Unrealized gain on securities | | | | 0 | (1) | 2 | 1 | 1 | 3 | | | | |
| Net Income (Loss) Applicable to Common Shareholders | (146) | (21,884) | (23,404) | (14,731) | (5,222) | (5,170) | (5,829) | (5,805) | (22,028) | (24,819) | 19,511 | 134,886 | 337,417 |
| Net Earnings (Losses) Per Share—Basic | (\$0.07) | (\$5.23) | (\$3.68) | (\$0.90) | (\$0.23) | (\$0.21) | (\$0.24) | (\$0.23) | (\$0.92) | (\$0.96) | \$0.63 | \$4.36 | \$10.92 |
| Net Earnings (Losses) Per Share—Diluted | (\$0.07) | (\$5.23) | (\$3.68) | (\$0.90) | (\$0.23) | (\$0.21) | (\$0.24) | (\$0.23) | (\$0.92) | (\$0.96) | \$0.63 | \$4.36 | \$10.92 |
| Shares outstanding—basic | 2,043 | 4,187 | 6,356 | 16,278 | 22,353 | 24,119 | 24,419 | 24,719 | 23,902 | 25,902 | 30,902 | 30,905 | 30,907 |
| Shares outstanding—diluted | 2,043 | 4,187 | 6,356 | 16,278 | 22,353 | 24,119 | 24,419 | 24,719 | 23,902 | 25,902 | 30,902 | 30,905 | 30,907 |
| Margin Analysis (% of Sales/Revenue) | | | | | | | | | | | | | |
| Costs of goods | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 12% | 12% | 12% |
| R&D | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -26% | -8% | -4% |
| SG&A | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -7% | -2% | -1% |
| Operating Income (loss) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 32% | 71% | 85% |
| Net Income | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 22% | 45% | 54% |
| Financial Indicator Growth Analysis (YoY%) | | | | | | | | | | | | | |
| Total Revenue | -100% | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 234% | 111% |
| R&D | -83% | 191264% | -69% | 29% | 88% | 57% | 85% | 58% | 70% | 39% | 9% | 8% | 7% |
| SG&A | 119% | 1292% | 304% | -4% | 4% | 5% | 14% | 26% | 11% | 5% | 5% | 5% | 5% |
| Marketing and sales | | | | | | | | | | | | 75% | 10% |
| Operating Income (Losses) | -8% | 23118% | -49% | 15% | 52% | 39% | 60% | 48% | 50% | 30% | -207% | 635% | 152% |
| Pretax Income | 32% | 14864% | 7% | -37% | 46% | 40% | 53% | 59% | 50% | 13% | -225% | 591% | 150% |
| Net Income | 32% | 14864% | 7% | -37% | 46% | 40% | 53% | 59% | 50% | 13% | -179% | 591% | 150% |
| EPS | -4% | 7202% | -30% | -75% | -41% | -1% | 19% | 28% | 2% | 4% | -166% | 591% | 150% |
| Yale Jen, Ph.D. 212-953-4978 | | | | | | | | | | | | | |

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

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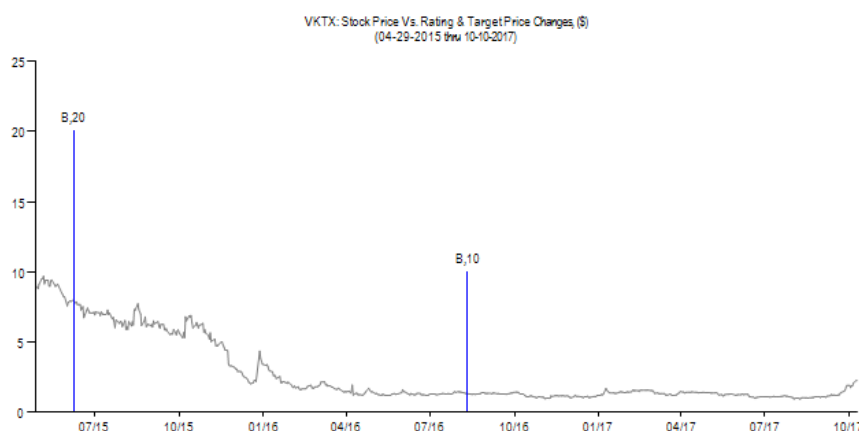
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3 Year Rating Change History

| 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 |

Source: Laidlaw & Company

Created by: Blue-Compass.net

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|----------------------------------|---|--|---|-----------|
| | | | Investment Banking | Brokerage |
| Strong Buy (SB) | Expected to significantly outperform the sector over 12 months. | 0.00% | 0.00% | 0.00% |
| Buy (B) | Expected to outperform the sector average over 12 months. | 64.58% | 31.25% | 2.08% |
| Hold (H) | Expected returns to be in line with the sector average over 12 months. | 4.17% | 0.00% | 0.00% |
| Sell (S) | Returns expected to significantly underperform the sector average over 12 months. | 0.00% | 0.00% | 0.00% |

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