



VIKING
THERAPEUTICS
(VKTX)



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THERAPEUTICS

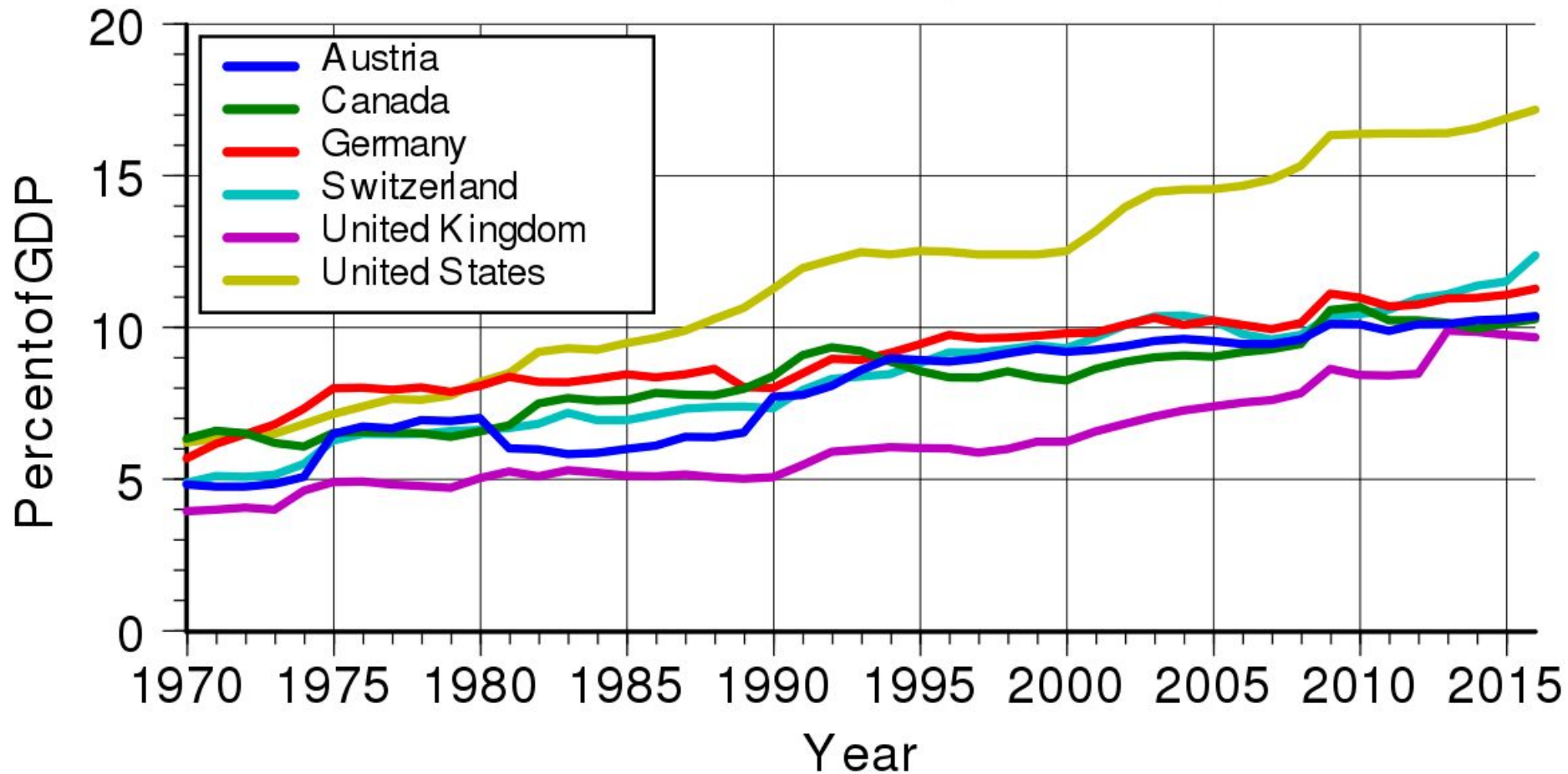
The logo for Viking Therapeutics is displayed on a white rectangular background. The word "VIKING" is written in a large, bold, grey sans-serif font. A small red crown icon is positioned above the letter "I". Below "VIKING", the word "THERAPEUTICS" is written in a smaller, red, all-caps sans-serif font.



Industry Background

- Prescription Drug Expenditure in the US as of 2018 is 360.2 Billion
- U.S.A. does not regulate the price of drugs
- A large portion of drug spending goes into Research and Development
- Average P/E ratio is 24.1

Health Care Cost (1970-2016)





Disease State Background

- Non-Alcoholic Fatty Liver Disease (NAFLD) comprises a spectrum of liver disorders characterized by a variable degree of excess accumulation of fat in the liver.
- Nonalcoholic Steatohepatitis (NASH) is the most severe form of non-alcoholic fatty liver disease (NAFLD) → accumulation of fat in the liver → liver damage
- NAFLD is closely related to metabolic syndromes like type 2 diabetes and obesity. With the rates of these metabolic syndromes increasing within the population the risk of NAFLD is also increasing.
- Approximately 90% of the of patients with NAFLD have a component of a metabolic syndrome.
- According to an ambulatory clinic cohort done in the USA found that 30% of the people who have NAFLD have developed NASH



Company Background

- Viking is a small company that started in 2012 and went public in 2015
- Market Cap: **1.02 billion**
- Shares issued: **70.15 million**
- Biopharmaceutical company focused on the development of therapies for metabolic and endocrine disorders
- Company's research and development activities use it's expertise in metabolism to develop therapeutics designed to improve patients' lives



Clinical Programs

- Metabolic Disease Program
 - VK2809
 - Small molecule thyroid receptor agonist that possesses selectivity for liver tissue.
 - Provides benefits to patients suffering from hypercholesterolemia and non-alcoholic fatty liver disease
 - Taken orally
- Musculoskeletal Program
 - VK5211
 - Non-steroidal selective androgen receptor modulator in Phase 2 development
 - Expected to provide treatment for patients recovering from non-elective hip fracture surgery
- Rare Disease Programs
 - VK2809
 - Potential treatment for Glycogen Storage Disease
 - Significant reductions in liver triglycerides, liver weight, and other metabolic markers
 - VK0214
 - Small molecule thyroid receptor agonist that possesses selectivity for the beta receptor subtype
 - Plan to file an IND for VK0214 in X-ALD in the fourth quarter of 2018



Investment Thesis

- Since Q4 2017 Vikings equity has increased over 1000%
- 20% of stock is held by insiders (12 employees)
- Trials are continuing to be promising
- Partnering opportunities are abundant
- The barriers of entry are high



Non-Alcoholic Steatohepatitis (NASH)

- Define *Steatohepatitis*: is a type of fatty liver disease, characterized by inflammation of the liver with concurrent fat accumulation in liver.
- NASH is a severe liver disease that stems from NAFLD.
- Viking is currently striving to release VK2809 that will combat high levels of LDL cholesterol which affects 31.7% of adults and can lead to NASH which causes swelling and damage to the liver.
- According to CNN Vikings trials are the most promising of its competition.

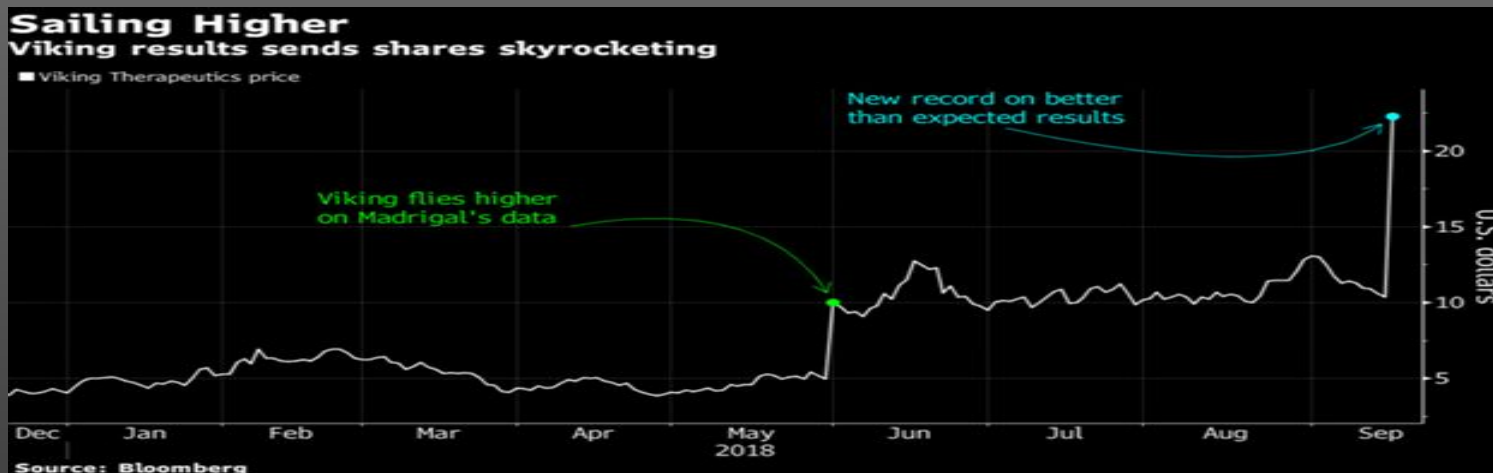


Catalysts

- VK2809 results show overall improvement in liver health, inflammation, liver size, and reduction in steatosis.
 - 10 mg administered for 12 weeks leading to liver fat reduction of 59.7%
 - VK2809 competitor- MGL-3196- administered 80 mg leading to only 36.3% liver fat reduction
 - **This comparison between clinical trials of Viking and their competitor shows that Viking is on track to have the best performing drug in this market space.**
- VK5211 results show significant improvements in measures of lean body mass in patients recovering from hip fractures
- VK0612, a first-in class drug candidate in Phase 2 of development for type 2 diabetes
 - Successfully completed six Phase 1 trials, five in healthy volunteers and sixth in those with poorly controlled type 2 diabetes
 - Demonstrated safety and clinical proof-of-concept
- Viking is pairing with other bigger companies to carry out phase 3 trials due to the fact that the the NASH drug look promising.

Valuation

- An Estimated 100 Million U.S. citizens have NAFLD.
- Of the adults who have NAFLD, 30% develop into NASH.
- NASH is the leading cause of liver transplants among women in the U.S.
 - **From these stats we can assume that demand is strong enough for VK2809 and a competitor to both accomplish blockbuster sales in this market space.**
- Valuation can't be determined at this time due to the fact that there is no revenue.
- Every time good news announced prices have risen significantly (doubled)





Competitors

- The largest competitor is Madrigal
- Released similar NASH drug in phase three of testing
- Ocaliva, from Intercept Pharmaceuticals (NASDAQ:ICPT) will probably be the first NASH treatment to earn an FDA approval, but safety concerns so far mean it will remain limited to those in advanced stages of the disease. Results from an ongoing phase 3 trial will be ready next year, but they're intended to support an expansion to treat severe NASH patients with fibrosis already.
- Viking's potential new NASH drug works in the same way as a candidate from Madrigal Pharmaceuticals (NASDAQ:MDGL) called MGL-3196. In late 2017, Madrigal stock shot up when the company announced a 36.3% liver fat reduction for patients treated with an 80 mg starting dose of MGL-3196 that was adjusted up or down according to patients' ability to tolerate it. Madrigal's drug helped 60.3% of patients who took it to achieve a 30% or better liver fat reduction, versus just 18.4% of those in the placebo group.



Competitors continued

- Although it looks like Viking just wiped the floor with the competition, investors should know that Madrigal only enrolled patients that had biopsy-proven NASH, while Viking didn't require any signs of liver damage, just the same 10% minimum liver fat content as Madrigal's trial. Until we see these drugs go head to head, or at least enroll similar patients, we really can't claim victory for either one.



Risks

- Health Care Sector can be volatile and prices can dramatically rise or fall from the success or failure from each phase of testing
- A lot of money could be put into R&D with no results
- Percent of Drugs passing clinical testing = 13.8%
 - Most drugs have a pass rate of 20%
- Madrigal could release NASH drug first
- In order for the company succeed the drugs in trail have to go through



Recommendation

- Take a long position on Viking as we estimate the hike in the stock price by 40%.
- We believe with a successful launch of these drugs and Viking has great potential