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Avivagen, Inc.

(VIVXF-OTC)

VIVXF: Preparing to Move OxC-beta™ into China…

Using an EV/EBITDA multiple of 16 applied to 2024 revenues and a discount rate of 20% (derived from CAPM), VIVXF is valued at $2.50/share. This model is highly dependent upon commercial success of OxC-beta™ Livestock and will be adjusted accordingly based on future commercial results.

Current Price (01/10/20)	$0.43
Valuation	**$2.50**

OUTLOOK

Avivagen, Inc. (VIVXF) is developing products to support animal health, which includes replacing antibiotics in livestock feeds with proprietary compounds (OxBC) that promote the growth and overall health of the animal through support of the host's innate immune system. In addition, OxBC may enable the removal of antibiotics from feeds while offering the same or better growth and health benefits without any risk of the development of antibiotic resistance. Avivagen recently announced Malaysia as the eighth country where OxBC is approved, with the company subsequently securing the first order of OxC-beta™ for Malaysia shortly thereafter. In addition, the company has recently entered into an agreement with COFCO Biotechnology for assistance in getting OxBC approved in China, which should further strengthen the company's presence in Asia.

SUMMARY DATA

52-Week High	**$0.49**
52-Week Low	**$0.29**
One-Year Return (%)	**N/A**
beta	**N/A**
Average Daily Volume (sh)	**4,083**
Shares Outstanding (mil)	**35**
Market Capitalization ($mil)	**N/A**
Short Interest Ratio (days)	**1**
Institutional Ownership (%)	**0**
Insider Ownership (%)	**N/A**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2019 Estimate	**N/A**
P/E using 2020 Estimate	**N/A**

Risk Level	**High**
Type of Stock	**Small-Growth**
Industry	**Med Products**

ZACKS ESTIMATES

Revenue
(in millions of CAD$)

	Q1 (Jan)	Q2 (Apr)	Q3 (Jul)	Q4 (Oct)	Year (Oct)
2019	0.3 A	0.3 A	0.0 A	0.3 A	1.0 A
2020	0.3 E	0.3 E	0.3 E	0.3 E	1.2 E
2021					3.0 E
2022					5.0 E

Earnings per Share
(in CAD$)

	Q1 (Jan)	Q2 (Apr)	Q3 (Jul)	Q4 (Oct)	Year (Oct)
2019	-$0.03 A	-$0.04 A	-$0.04 A	-$0.03 A	-$0.14 A
2020	-$0.04 E	-$0.03 E	-$0.03 E	-$0.03 E	-$0.11 E
2021					-$0.11 E
2022					-$0.06 E

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WHAT'S NEW

Business Update

Preparing for OxC-beta™ Approval in China

On December 17, 2019, Avivagen, Inc. (VIVXF) announced it has entered into an agreement with COFCO Biotechnology Co. Ltd. in which COFCO will assist Avivagen in securing regulatory approval for OxC-beta™ Livestock in China. COFCO is a leading supplier of agriculture products in China, and with 12,000 employees and sales of more than $17.5 billion in 2018 we believe they are a great partner to assist Avivagen in determining what trials of OxC-beta™ Livestock will be necessary to secure approval for use in chicken feed along with advising on other aspects of the Chinese regulatory pathway.

China represents a tremendous opportunity for Avivagen as the Chinese government has announced a plan to ban all antibiotics in livestock feed by July 2020. In addition, African Swine Fever (ASF) decimated China's swine herd in 2019, with an increase in poultry production set to fill the protein supply gap. This increased demand for poultry is being filled by both increased imports to China as well as increased domestic poultry production, which is up 20% since 2018. Some estimates call for Chinese poultry feed production to nearly double over the next five years (Feed Strategy).

OxC-beta™ Approved in Malaysia

On December 5, 2019, Avivagen announced the approval of OxC-beta™ Livestock for broilers and swine in Malaysia, bringing the total number of countries in which Avivagen has approval to eight, including the U.S., Mexico, New Zealand, Taiwan, Thailand, Australia, and the Philippines. Shortly thereafter, Avivagen announced the first order of 100 kg for OxC-beta™ Livestock in Malaysia.

Malaysia's government intends to move all chicken production to be antibiotic-free by 2020, thus representing a nice growth opportunity for Avivagen. Most of the 4.8 million metric ton Malaysian feed market is directed toward poultry broilers and layers due to the growing popularity of chicken-based fast food restaurants in the country, including Kentucky Fried Chicken, Nando's, The Chicken Rice Shop, Kenny Rogers Roasters, and Ayamas (USDA, 2017).

New Distribution Agreement in the Philippines

On December 16, 2019, Avivagen announced a memorandum of understanding has been reached with INPHILCO, Inc., in which INPHILCO will become a new, key distribution partner for OxC-beta™ Livestock in the Philippines. INPHILCO will sell OxC-beta™ Livestock to large integrated feed producers as part of INPHILCO's premix offerings as well as a standalone product. The memorandum of understanding with INPHILCO is part of the negotiation process toward signing a definitive distribution agreement, which should be completed within the next 60 days.

In addition to the working on a definitive distribution agreement with INPHILCO, Avivagen is also working to finalize rights to sell OxC-beta™ Livestock directly to Universal Robina Corporation, one of the Philippine's largest integrated livestock producers. Universal Robina's Agro-Industrial and Commodity Food Groups (URC AIG), one of largest pork and poultry producers in the Philippines, is currently testing OxC-beta™ Livestock in its integrated-feed for use in its internal swine production.

The Philippines had an estimated annual feed production of 19 million metric tons in 2019, which is up from 11.75 million metric tons in 2016, and produces as much pork and poultry as Canada.

Financial Update

On December 20, 2019, Avivagen announced financial results for the 2019 fiscal year ending October 31, 2019. Revenues for the twelve month period ending Oct. 31, 2019 were CAD$0.98 million compared to CAD$1.07 million for the twelve month period ending Oct. 31, 2018. The decrease was due to decreased sales of OxC-beta™ products due to the timing difference on a significant order. Subsequent to the end of the quarter, Avivagen secured a 2.1 metric ton order for OxC-beta™ Livestock from UNAHCO, a distribution partner in the Philippines. Selling, general, and administrative expenses for fiscal year 2019 were CAD$3.8 million compared to CAD$4.3 million for fiscal year 2018. The decrease was due to decreased salaries, professional fees, and share-based payments. Research costs were CAD$0.6 million for the twelve months ending Oct. 31, 2019 compared to CAD$0.5 million for the twelve months ending Oct. 31, 2018. The increase was due to an employee termination expense incurred during the most recent 12 months partially offset by lower product trial expenses.

Avivagen exited fiscal year 2019 with approximately CAD$1.1 million. On January 3, 2020, the company announced the closing of a CAD$1.25 million private placement through the issuance of 2.5 million units at CAD$0.50 per unit, with each unit consisting of one share of common stock and one-half of one common share purchase warrant. The warrants have an exercise price of CAD$0.75. Following this financing, we believe Avivagen is sufficiently financed to fund operations into mid-2020. As of Oct. 31, 2019, Avivagen had approximately 34.9 million common shares outstanding and when factoring the recent financing, approximately 2.3 million stock options, and approximately 6.6 million warrants a fully diluted share count of approximately 46.3 million.

Valuation

We value Avivagen using an EV/EBITDA multiple based on projected revenues of OxC-beta Livestock. We believe Avivagen is laying the groundwork for a very steep growth rate in revenues in the coming years through a combination of new market opportunities and market expansion. For example, the company is making steady progress on sales in the Philippines and we believe it is only a matter of time before sales begin to ramp up considerably in Asia and other parts of the world, particularly as additional data showing the benefits of the OxBC technology is published.

Due to the fact that Avivagen has a limited commercial history, the financial forecasts we have prepared are educated guesses and are heavily reliant on the company continuing to execute on its business plan to get OxC-beta Livestock approved in as many jurisdictions as possible, signing distribution agreements in each of those jurisdictions, and continuing market expansion through adoption of OxC-beta Livestock by major animal producers.

Our model estimates sales of OxC-beta Livestock of CAD$60 million in 2025, as we believe the company will hit an inflection point following the adoption of OxC-beta Livestock by multiple major animal producers over the next couple of years. Using an EV/EBITDA ratio of 16 (which is derived from the average for pharmaceutical companies found here) and an EBITDA of CAD$23 million leads to an EV of CAD$368 million. Using a discount rate of 20% (derived from CAPM) we arrive at a present day EV of approximately CAD$148 million. The company has approximately CAD$3.5 million in debt, approximately CAD$1.6 million in cash (estimated following the January 2020 financing), and CAD$6.3 million in potential financing from warrant exercises. Accounting for that leads to an NPV of CAD$152 million. Dividing this by the fully diluted share count of 46.3 million leads to a valuation of approximately CAD$3.29 per share. Using the current exchange ratio of $1 CAD = $0.77 USD leads to a valuation for VIVXF of approximately $2.50.

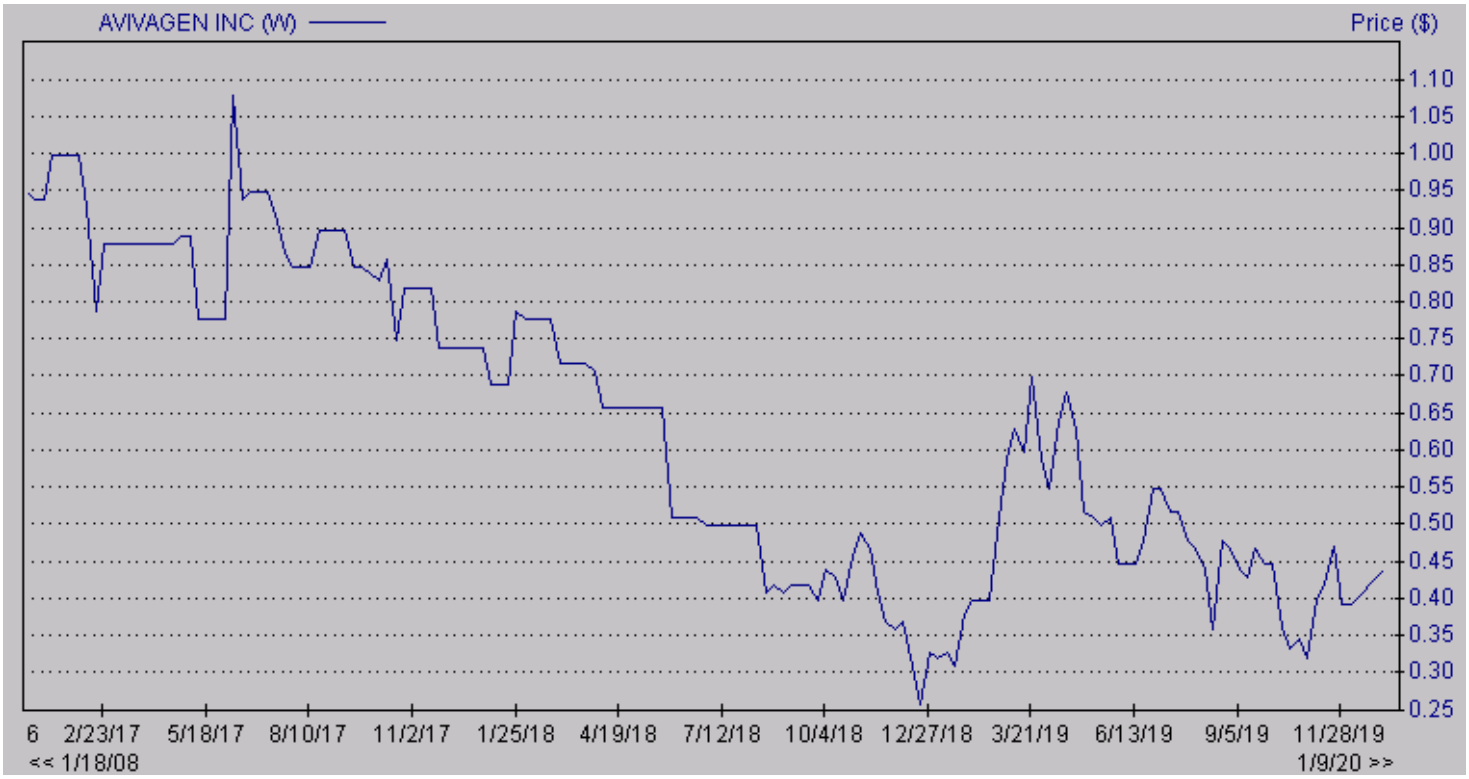
PROJECTED FINANCIALS

Avivagen, Inc. (in Canadian Dollars)	FY2019 A	1QFY20 E	2QFY20 E	3QFY20 E	4QFY20 E	FY2020 E	FY2021 E	FY2022 E
OxC-beta™ Livestock	$1.0	$0.3	$0.3	$0.3	$0.3	$1.2	$3.0	$5.0
Other Income	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total Revenues	**$1.0**	**$0.3**	**$0.3**	**$0.3**	**$0.3**	**$1.2**	**$3.0**	**$5.0**
Cost of Sales	$0.5	$0.1	$0.1	$0.1	$0.1	$0.6	$2.2	$2.2
Product Gross Margin	*54%*	*54%*	*53%*	*53%*	*53%*	*53%*	*27%*	*56%*
Selling, General and Administration	$3.8	$1.0	$1.0	$1.0	$1.0	$4.0	$5.0	$5.5
Research	$0.6	$0.1	$0.1	$0.2	$0.2	$0.6	$0.7	$0.8
Depreciation of Equipment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Finance Cost	$0.9	$0.3	$0.3	$0.3	$0.3	$1.2	$1.2	$1.2
Joint Venture Termination	$0.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other (Income) Expense	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Operating Income	($4.8)	($1.2)	($1.2)	($1.3)	($1.3)	($4.0)	($4.9)	($3.5)
Operating Margin	-	-	-	-	-	-	-	-
Non-Operating Expenses (Net)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Pre-Tax Income	($4.8)	($1.2)	($1.2)	($1.3)	($1.3)	($4.0)	($4.9)	($3.5)
Income Taxes	$0.0	$0.0	$0.0	$0.0	$0.0	$0	$0	$0
Tax Rate	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net Income	**($4.8)**	**($1.2)**	**($1.2)**	**($1.3)**	**($1.3)**	**($4.0)**	**($4.9)**	**($3.5)**
Net Margin	-	-	-	-	-	-	-	-
Reported EPS	**($0.14)**	**($0.04)**	**($0.03)**	**($0.03)**	**($0.03)**	**($0.11)**	**($0.11)**	**($0.06)**
YOY Growth	-	-	-	-	-	-	-	-
Basic Shares Outstanding	34.4	35.0	35.5	40.0	40.0	37.6	45.0	55.0

Source: Zacks Investment Research, Inc. *David Bautz, PhD*

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