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April 6, 2018
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# Antibe Therapeutics Inc.

## (V.ATE - TSX)

***V.ATE: Raises Approximately CAD$4 Million from Warrant Exercises…***

Based on our probability adjusted DCF model that takes into account potential future revenues from ATB-346 along with Citagenix Inc., ATE.V is valued at CAD$1.80 per share. This model is highly dependent upon continued clinical success of ATB-346 along with the global growth strategy for Citagenix and will be adjusted accordingly based upon future clinical results and the company's execution.

| | |
|---|---|
| Current Price (04/06/2018) | CAD$0.40 |
| **Valuation** | **CAD$1.80** |

## OUTLOOK

On April 3, 2018, Antibe Therapeutics Inc. (ATE.V) announced that following release of the topline data from the successful Phase 2b study of ATB-346 in demonstrating gastrointestinal safety, the company has raised approximately CAD$4 million from warrant exercises, which brings the company's current cash position to approximately CAD$5 million. In addition, the company has the potential to raise an additional $6 million from existing warrants that are substantially in-the-money. Lastly, the company received conversions of approximately CAD$3 million, which is almost the entirety of the company's outstanding convertible debentures. The company now has sufficient capital to fully fund the upcoming Phase 2b dose-ranging efficacy study of ATB-346.

## SUMMARY DATA

| | |
|---|---|
| **52-Week High** | **$0.79** |
| **52-Week Low** | **$0.08** |
| **One-Year Return (%)** | **127** |
| **Beta** | **-1.36** |
| **Average Daily Volume (sh)** | **836,980** |
| **Shares Outstanding (mil)** | **199** |
| **Market Capitalization ($mil)** | **$80** |
| **Short Interest Ratio (days)** | **N/A** |
| **Institutional Ownership (%)** | **N/A** |
| **Insider Ownership (%)** | **19** |
| **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 #Lin Estimate** | **N/A** |
| **P/E using #Lin Estimate** | **N/A** |

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

## ZACKS ESTIMATES

### Revenue

(In millions of CAD$)

| | Q1 (Jun) | Q2 (Sep) | Q3 (Dec) | Q4 (Mar) | Year (Mar) |
|---|---|---|---|---|---|
| 2017 | 2.6 A | 2.2 A | 2.0 A | 2.3 A | 9.1 A |
| 2018 | 2.3 A | 1.8 A | 2.2 A | 2.6 E | 9.2 E |
| 2019 | | | | | 12.0 E |
| 2020 | | | | | 15.0 E |

### Earnings per Share

| | Q1 (Jun) | Q2 (Sep) | Q3 (Dec) | Q4 (Mar) | Year (Mar) |
|---|---|---|---|---|---|
| 2017 | -$0.01 A | -$0.01 A | -$0.02 A | -$0.01 A | -$0.06 A |
| 2018 | -$0.02 A | -$0.01 A | -$0.01 A | -$0.01 E | -$0.04 E |
| 2019 | | | | | -$0.04 E |
| 2020 | | | | | -$0.04 E |

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## WHAT'S NEW

### Financial Update

On April 3, 2018, Antibe Therapeutics Inc. (ATE.V) announced that following the successful completion of the Phase 2b gastrointestinal safety study and release of positive topline results, the company has raised approximately CAD$4 million from the exercise of outstanding warrants and that there is the potential to raise an additional approximately CAD$6 million from the exercise of outstanding warrants that are significantly in-the-money. The company's current cash total is approximately CAD$5 million, thus the company's upcoming Phase 2b dose-ranging efficacy study of ATB-346 is fully funded.

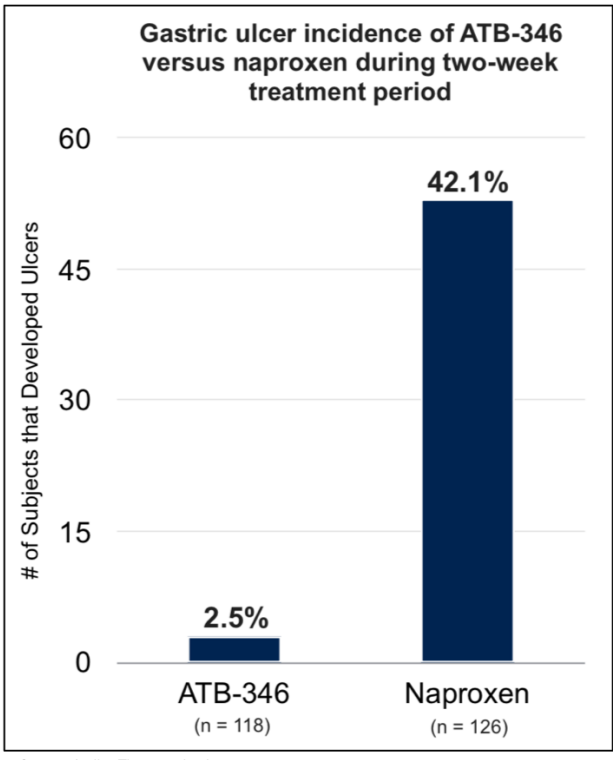
In addition to the capital raised through warrant exercises, the company has also eliminated almost all of its debt from the balance sheet through conversions of approximately $3 million of convertible debentures, which bore interest at 10% per year and were convertible at CAD$0.22 per share. The only remaining debt on the balance sheet is a standard operating line of credit for Antibe's subsidiary Citagenix, Inc.

Following the conversion of the debentures and exercise of warrants, we estimate that the company now has approximately 199 million shares outstanding and when factoring in the remaining warrants and stock options a fully diluted share count of approximately 259.5 million.

### Business Update

On March 20, 2018, Antibe announced positive topline results for the Phase 2 gastrointestinal (GI) safety study of its lead drug, ATB-346. The double-blind, gastrointestinal (GI) safety study enrolled 244 healthy volunteers, in which participants were administered either 250 mg ATB-346 once daily or 500 mg naproxen twice daily. All subjects had an endoscopic examination of the upper GI tract prior to drug treatment and at the end of the 14-day study period.

The results showed that 42.1% (53/126) of naproxen-dosed subjects had GI ulceration compared to only 2.5% (3/118) of subjects treated with ATB-346, which was a statistically significant difference ($P$<0.001). Importantly, there were no safety signals and transient increases in liver enzymes were seen at levels comparable to what is seen with the most commonly prescribed NSAIDs.




*Source*: Antibe Therapeutics Inc.

*Dose-Ranging Efficacy Study*

Now that the company has positive GI safety data the next step is to conduct a Phase 2 dose-ranging efficacy study. This will be a randomized, double blind, placebo controlled trial with osteoarthritis (OA) patients that we anticipate initiating in the third quarter of 2018 with topline results available in the fourth quarter of 2018. We anticipate learning more about this study once the company finalizes details about the study and gets closer to initiating it.

*NSAID Side Effects*

Antibe is developing ATB-346 as a solution to the dose-related GI side effects associated with NSAIDs. These effects are a result of the inhibition of the COX-1 enzyme, which is responsible for the normal gastro-protective processes (Roth, 1988). In addition, many NSAIDs are acidic molecules, resulting in irritation to the gastric mucosa. Dyspepsia, abdominal pain, and nausea are all common side effects of oral NSAIDs (Makris *et al*., 2010). While these adverse events are manageable, more serious events are known to occur with oral NSAID use including upper GI bleeding, ulcers, and death (Hernández-Díaz *et al*., 2000). According to The Arthritis, Rheumatism, and Aging Medical Information System, more than 100,000 Americans are hospitalized each year and more than 16,000 die from ulcers and GI bleeding linked to NSAID use.

With the discovery of COX-2, research and development efforts were directed at discovering compounds that inhibited COX-2 selectively in order to overcome the GI side effects. While COX-1 is constitutively expressed throughout the body, COX-2 is typically only expressed in inflammation, with the inhibition of COX-2 resulting in the desired clinical response of NSAIDs.

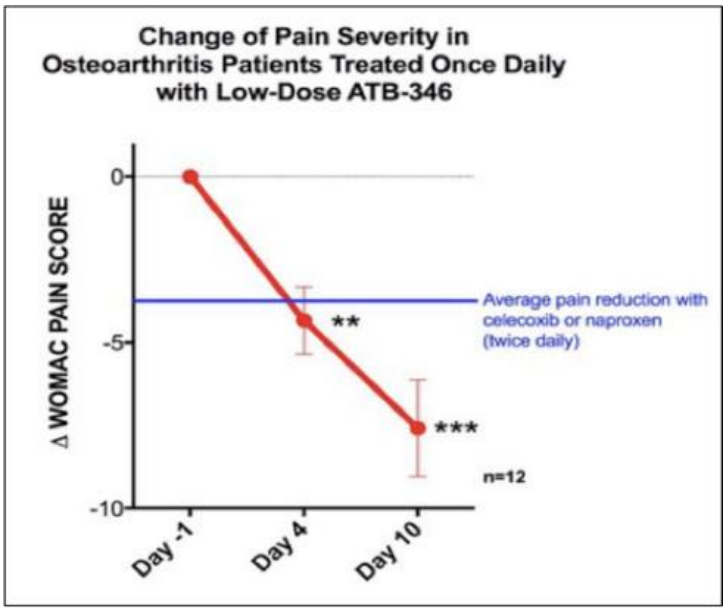
Selective COX-2 inhibitors, such as rofecoxib (Vioxx®), celecoxib (Celebrex®), and valdecoxib (Bextra®), were initially very popular with both physicians and patients for their ability to relieve pain with a significantly decreased risk of adverse GI events. For example, Vioxx achieved over $1 billion in sales in its first year on the market. However, some clinical trials of the COX-2 inhibitors showed that treatment led to an increased risk of adverse cardiovascular (CV) events (Antman *et al*., 2007; Kearney *et al*., 2006). These results led Merck to voluntarily recall Vioxx® in 2004, with Bextra® withdrawn from the market in 2005. In addition, the FDA required a black box warning on the label for Celebrex®.

So while on the one hand non-selective NSAIDs are great at offering pain relief, they are accompanied by the threat of serious GI problems, including the development of intestinal damage and bleeding ulcers. Selective NSAIDs are very effective at mitigating pain and they cause significantly fewer GI effects, but they come with an increased risk of CV events. Thus, what is needed is an effective NSAID that does not increase a patient's risk of serious GI or CV events.

*ATB-346*

ATB-346 uses naproxen as a base molecule with a hydrogen sulfide releasing moiety covalently attached. Hydrogen sulfide ($H_2S$) has been identified as an important gasotransmitter, a gas that serves as an important signaling molecule in the body. Other examples of gasotransmitters are nitric oxide (NO) and carbon monoxide (CO).

In 2016, Antibe announced the successful completion of a Phase 2 study of ATB-346 in patients with osteoarthritis of the knee. Twelve patients were treated once daily with 250 mg of ATB-346, which is only 1/6$^{th}$ of the typical daily dose of naproxen for treating osteoarthritis. The patients recorded their pain level one day prior to starting treatment and then again on days 4 and 10 of treatment using the WOMAC pain scale. The graph below shows the change in recorded pain level over the 10 days of the study. Previous studies show typical reductions in WOMAC pain scores for osteoarthritis patients taking celecoxib of approximately 4 units following one week of treatment, with no additional improvement beyond that with continued treatment (Wittenberg *et al*., 2006). Thus, the average reduction of 7.6 units is quite impressive in that study population.




*Source*: Antibe Therapeutics, Inc.

**Valuation**

Based on the positive results of the Phase 2 GI safety study we have made adjustments to our model. We continue to model for approval of ATB-346 in OA followed by approval for multiple indications similar to celecoxib. ATB-346 has blockbuster potential and we believe sales in excess of $1 billion are possible in both the U.S. and E.U. with the data from the Phase 2 study lending support to that thesis. We are confident that Antibe will be able to enter into a partnership with a global pharmaceutical company and we currently model for a 12% royalty with associated milestone payments.

In terms of cash, the company now has approximately $5 million in cash and cash equivalents with the potential to raise an additional approximately CAD$6 million from warrant exercises. Most importantly, the Phase 2b dose-ranging efficacy study is fully funded.

Based on increasing the chance for approval and the price for ATB-346 our new valuation is CAD$1.80. Following an initial rise after release of the Phase 2b GI safety data the stock has pulled back some and we believe there remains the potential for considerable upside, particularly with data from the dose-ranging efficacy study still to come before the end of 2018.

## PROJECTED FINANCIALS

**Antibe Therapeutics Inc.**
Income Statement

| **Antibe Therapeutics, Inc.**<br>Fiscal Year Ends Mar. 31 / in Canadian dollars | FY 2017 A | Q1 '18 A | Q2 '18 A | Q3 '18 A | Q4 '18 E | FY 2018 E | FY 2019 E | FY 2020 E |
|---|---|---|---|---|---|---|---|---|
| **ATB-346 (royalty)** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| *YOY Growth* | - | - | - | - | - | - | - | - |
| **ATB-352 (royalty)** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| *YOY Growth* | - | - | - | - | - | - | - | - |
| **Citagenix** | **$9.1** | **$2.3** | **$1.8** | **$2.2** | **$2.6** | **$8.9** | **$12.0** | **$15.0** |
| **Licensing / Development** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Total Revenues | $9.1 | $2.3 | $1.8 | $2.2 | $2.6 | $8.9 | $12.0 | $15.0 |
| *YOY Growth* | *104.1%* | *-12.7%* | *-17.9%* | *14.0%* | *12.7%* | *-1.7%* | *34.8%* | *25.0%* |
| Cost of Goods Sold | $5.1 | $1.3 | $1.1 | $1.4 | $2.0 | $5.8 | $8.3 | $9.9 |
| *Product Gross Margin* | *43.4%* | *42.7%* | *36.7%* | *39.6%* | *23.1%* | *35.0%* | *30.8%* | *34.0%* |
| SG&A | $6.9 | $1.6 | $1.6 | $1.6 | $2.2 | $7.0 | $9.0 | $11.0 |
| *% SG&A* | *76.6%* | *72.0%* | *91.2%* | *70.1%* | *84.6%* | *79.1%* | *75.0%* | *73.3%* |
| R&D | $0.7 | $0.6 | $0.5 | $0.5 | $0.5 | $2.1 | $1.8 | $2.0 |
| *% R&D* | *7.7%* | *27.5%* | *25.9%* | *23.3%* | *19.2%* | *23.7%* | *15.0%* | *13.3%* |
| Stock-based compensation | $1.2 | $0.3 | $0.2 | $0.1 | $0.4 | $1.0 | $1.8 | $1.8 |
| *% Stock-based* | *12.8%* | *12.2%* | *11.3%* | *4.2%* | *15.4%* | *10.9%* | *15.0%* | *12.0%* |
| Amortization and Depreciation | $0.4 | $0.1 | $0.1 | $0.1 | $0.1 | $0.4 | $0.5 | $0.6 |
| *% Other* | *3.9%* | *4.0%* | *5.1%* | *4.4%* | *5.0%* | *4.6%* | *4.2%* | *4.0%* |
| Operating Income | ($5.2) | ($1.7) | ($1.7) | ($1.4) | ($2.6) | ($6.4) | ($7.6) | ($8.5) |
| *Operating Margin* | *-57.5%* | *-73.0%* | *-96.7%* | *-62.5%* | *-101.2%* | *-72.4%* | *-63.3%* | *-56.7%* |
| Interest Income / Net | ($0.9) | ($0.2) | ($0.1) | ($0.2) | $0.0 | ($0.5) | $0.0 | $0.0 |
| Pre-Tax Income | ($6.1) | ($1.8) | ($1.9) | ($1.6) | ($2.6) | ($7.0) | ($7.6) | ($8.5) |
| Taxes | ($0) | ($0) | ($0) | ($0) | ($0) | ($0) | ($0) | ($0) |
| *Tax Rate* | *0%* | *0%* | *0%* | *0%* | *0%* | *0%* | *0%* | *0%* |
| Net Income | ($5.7) | ($1.7) | ($1.7) | ($1.6) | ($2.5) | ($6.6) | ($7.6) | ($8.5) |
| *YOY Growth* | *71.1%* | - | - | - | - | *14.2%* | *15.6%* | *11.9%* |
| *Net Margin* | *-63.5%* | - | *-94.0%* | *-72.7%* | *-95.7%* | *-73.7%* | *-63.2%* | *-56.5%* |
| Reported EPS | ($0.06) | ($0.02) | ($0.01) | ($0.01) | ($0.01) | ($0.04) | ($0.04) | ($0.04) |
| Fully Diluted Shares | 95.7 | 116.7 | 157.9 | 163.0 | 180.0 | 154.4 | 200.0 | 220.0 |

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

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