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## Anavex Life Sciences Corp. (NASDAQ/AVXL)

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### BUY Rated: ANAVEX 3-71 for Prevention in Alzheimer's Disease

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*Anavex reported a new peer-reviewed publication in the journal Neurobiology of Aging, titled "Early treatment with an M1 and sigma-1 receptor agonist prevents cognitive decline in a transgenic rat model displaying Alzheimer-like amyloid pathology", featuring the orally available small molecule ANAVEX3-71.*

#### Investment Highlights:

- This study ascertains potential disease-modifying properties of ANAVEX3-71 on Alzheimer's disease (AD) pathology and could be a drug candidate for a once daily oral preventive strategy.
- ANAVEX3-71 activates the sigma-1 receptor (SIGMAR1) and the M1 muscarinic receptor (M1R). Data suggests that activation of SIGMAR1 results in the restoration of homeostatic function within the body and is pivotal to restoring neural cell balance and promoting neuroplasticity.<sup>2</sup> Previous studies of ANAVEX3-71 have demonstrated its potential to treat Alzheimer's disease (AD)-like pathology at advanced stages of disease in animal models.
- In this publication, transgenic rats that develop AD-like symptoms as they age were treated with ANAVEX3-71 for 7-months before they developed amyloid plaques, followed by a 4-week washout period. Preventative treatment with ANAVEX3-71 reduced levels of insoluble and soluble amyloid-beta as well as plaque deposition in the aging cortex and hippocampus, areas heavily impacted by AD. Notably, the reduction in amyloid pathology was accompanied by a reduction in inflammatory glial activity which is connected to the disease cascade in AD and other dementias. ANAVEX3-71 treatment downregulated the proinflammatory IL-1 $\beta$  and IL-6 cytokines, which are known to be associated with AD. Additionally, ANAVEX3-71 treatment boosted brain derived neurotrophic factor (BDNF) which reinforces the evidence that ANAVEX3-71 protects neurons.
- Importantly, these beneficial effects were sustained after a month-long drug washout. This differentiates ANAVEX3-71 from other therapeutic approaches and suggests long-lasting, disease-modifying effects on AD pathology. This long-lasting effect was also observed in previous animal studies of ANAVEX3-71 at advanced stages of the disease.

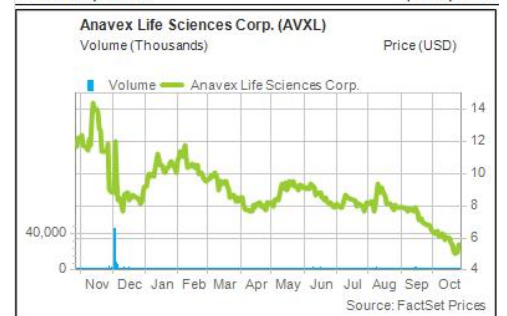
**Valuation.** Our valuation is based on our therapeutic models and associated assumptions projected to 2030. Our model assumes multiple financial raises, so our share count is based on a projected, fully diluted out-year basis. Given the early nature of the company and its dependence on clinical trial outcomes in the CNS space, we apply a probability of success (50%) in our models. On top of this, we also add a 30% risk rate in our free cash flow to the Firm (FCFF), our discounted EPS (dEPS), and sum-of-the-parts (SOP) models. We equal weight and average these metrics and then round to the nearest whole number to derive our price target.

**Risks to our thesis include:** (1) commercial; (2) regulatory; (3) clinical; (4) market share; (5) financial; (6) investment; and (7) intellectual property.



Source: Anavex

Stock Data	
52-Week Range	\$4.90 - \$15.24
Shares Outstanding (mil.)	82.0
Market Capitalization (mil.)	\$461
Enterprise Value (mil.)	\$306
Debt to Capital	0%
Book Value/Share	\$0.56
Price/Book	5.6
Average Three Months Trading Volume (K)	481
Insider Ownership	3.2%
Institutional Ownership	31.3%
Short interest (mil.)	21.7%
Dividend / Yield	\$0.00/0.0%



**Exhibit 1. Income Statement (\$ in thousands)**

Anavex Life Sciences Corp																
Anavex: YE Sept 30	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23E	4Q23E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Revenue</b>																
Anavex2-73 AD U.S.		-	-	-	-	-	-	-	-	-	-	996,342	1,332,252	1,067,282	1,244,145	1,348,343
Anavex2-73 AD ROW												1,235,807	1,285,239	1,103,163	1,350,272	1,606,824
Anavex2-73 Rett's Syndrome										28,192	71,890	586,623	747,945	915,484	933,794	952,470
Anavex2-73 Parkinson's Dementia PDD										-	-	177,649	241,602	369,651	439,885	480,732
<b>Total Product Revenues</b>										<b>28,192</b>	<b>71,890</b>	<b>2,996,421</b>	<b>3,607,037</b>	<b>3,455,581</b>	<b>3,968,096</b>	<b>4,388,368</b>
<b>% Chg</b>																
<b>% Sequential Growth</b>																
<b>Milestones</b>																
<b>% Sequential Growth</b>																
<b>Total Revenues (\$000)</b>										<b>28,192</b>	<b>71,890</b>	<b>2,996,421</b>	<b>3,607,037</b>	<b>3,455,581</b>	<b>3,968,096</b>	<b>4,388,368</b>
<b>Expenses</b>																
Cost of Goods Sold (10%)		-	-	-	-	-	-	-	-	-	-	223,215	261,749	217,045	259,442	295,517
Accounting and Audit Fees																
Amortization and depreciation	2	2	2	2	0	0	0	0	2	2	2	2	2	2	2	2
Bank charges and interest																
Consulting Fees																
Insurance																
Investor relations																
Legal fees																
Management fees																
Office and miscellaneous expense																
Registration and filing fees																
Rent and administration																
Research and Development	22,260	25,232	32,267	41,326	11,307	11,307	11,363	11,420	45,396	36,819	29,899	24,280	19,717	16,011	13,002	10,558
Salaries and wages																
Travel																
Website design and maintenance																
General and Administrative	6,847	5,857	9,205	13,320	2,883	2,883	3,000	3,000	11,765	27,500	45,000	45,450	45,905	46,364	46,827	47,295
<b>Operating expenses</b>	<b>31,287</b>	<b>31,088</b>	<b>41,474</b>	<b>54,647</b>	<b>14,189</b>	<b>14,190</b>	<b>14,364</b>	<b>14,420</b>	<b>57,163</b>	<b>64,320</b>	<b>74,901</b>	<b>292,946</b>	<b>327,372</b>	<b>279,421</b>	<b>319,272</b>	<b>353,372</b>
Oper. Inc. (Loss)	(31,287)	(31,088)	(41,474)	(54,647)	(14,189)	(14,190)	(14,364)	(14,420)	(57,163)	(36,128)	(3,010)	2,703,474	3,279,666	3,176,160	3,648,824	4,034,996
Oper Margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1	1	1	1	1
Other income (expense)	2,466															
Research and Development incentive	299			682												
Interest and financing fees	207			(25)						(25)	(25)	(25)	(25)	(25)	(25)	(25)
Accretion of debt discount	116															
Change in fair value of derivative liability	(151)															
Debt conversion expense	(42)															
Loss on settlement of accounts payable																
Loss on extinguishment of debt																
Foreign exchange gain (loss)				(733)												
Financing related charges and adjustments																
Other non-operating income																
Non-operating Income (expense)	2,894	-	2,129	(75)						(25)	(25)	(25)	(25)	(25)	(25)	(25)
Financial Income, Net																
<b>Financial Expenses, Net</b>	<b>4,830</b>	<b>4,830</b>	<b>4,555</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>	<b>(1,132)</b>
<b>Pretax Income</b>	<b>(28,393)</b>	<b>(26,258)</b>	<b>(36,918)</b>	<b>(54,722)</b>	<b>(13,057)</b>	<b>(13,057)</b>	<b>(14,364)</b>	<b>(14,420)</b>	<b>(57,163)</b>	<b>(36,153)</b>	<b>(3,035)</b>	<b>2,703,449</b>	<b>3,279,641</b>	<b>3,176,135</b>	<b>3,648,799</b>	<b>4,034,971</b>
Pretax Margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Income Tax Benefit (Provision)	(82)	(23)	(155)	(319)	(50)	(50)	(1,436)	(1,442)	(2,978)	(6,508)	(880)	892,138	1,180,671	1,238,693	1,423,032	1,573,639
Tax Rate	0	0	1%	10%	10%	10%	10%	10%	5%	18%	29%	30%	31%	31%	31%	31%
<b>GAAP Net Income (loss)</b>	<b>(28,475)</b>	<b>(26,280)</b>	<b>(37,074)</b>	<b>(50,068)</b>	<b>(13,107)</b>	<b>(13,107)</b>	<b>(12,927)</b>	<b>(12,978)</b>	<b>(52,120)</b>	<b>(29,646)</b>	<b>(2,155)</b>	<b>1,811,311</b>	<b>2,098,970</b>	<b>1,937,442</b>	<b>2,225,767</b>	<b>2,461,332</b>
Net Margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.60	0.58	0.56	0.56	0.56
<b>GAAP-EPS</b>	<b>(0.65)</b>	<b>(0.45)</b>	<b>(0.53)</b>	<b>(0.65)</b>	<b>(0.17)</b>	<b>(0.17)</b>	<b>(0.16)</b>	<b>(0.16)</b>	<b>(0.66)</b>	<b>(0.36)</b>	<b>(0.03)</b>	<b>20.43</b>	<b>22.74</b>	<b>20.17</b>	<b>22.27</b>	<b>23.66</b>
Non GAAP EPS (dil)	(0.65)	(0.45)	(0.53)	(0.65)	(0.17)	(0.17)	(0.16)	(0.16)	(0.66)	(0.36)	(0.03)	20.43	22.74	20.17	22.27	23.66
Wgtd Avg Shrs (Bas)	48,906	58,195	69,869	77,278	78,304	78,304	78,382	78,461	78,363	78,657	78,972	79,288	79,606	79,925	80,245	80,567
Wgtd Avg Shrs (Dil)	48,906	58,195	69,869	77,278	78,304	78,304	79,087	79,878	78,893	81,895	85,220	88,680	92,281	96,028	99,927	103,985

Source: Dawson James estimates, company reports

**Risk Analysis**

**Clinical Trial Risk.** Anavex is dependent on the outcome of multiple clinical trials. The failure rates associated with disease conditions such as Alzheimer's are historically very high.

**Commercial Risk.** Anavex hopes to compete in the CNS markets, which have traditionally been dominated by large pharma and biotechnology companies with deep pockets (funding and resources), which may make it difficult for Anavex to compete unless the molecule is deemed to be truly differentiated.

**Financial Risk.** Anavex is likely to require additional capital raises before the company can be self-sustaining. There can be no guarantees that the company will be able to raise the needed capital.

**Investment Risk.** Anavex is a small capital company, which can translate into high volatility and risk for investors. The company has no revenues and is dependent on the clinical progress of its therapeutics.

**Intellectual Property.** Anavex may face I.P. challenges, forcing the company to defend its patents or itself against claims that the company is infringing on other patents. We do know that the lead product is protected by a composition of matter patent to 2033.

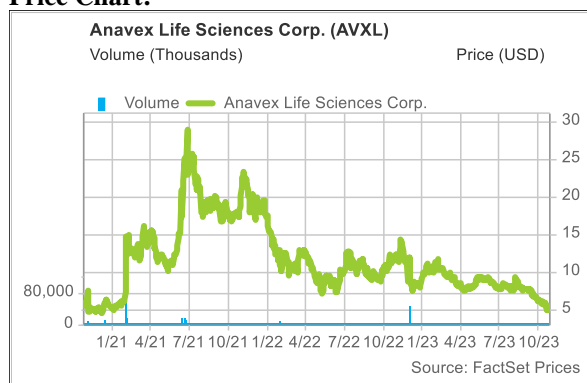
**Market Share Risk.** The central nervous system (CNS) market is competitive and tends to be dominated by large pharma and large well-established biotechnology companies.

**Regulatory Risk.** Anavex, even with good clinical data, could face extensive delays and other regulatory setbacks.

Companies mentioned in this report:

Important Disclosures:

**Price Chart:**



Price target and rating changes over the past three years:

- Initiated – Buy – July 24, 2019 – Price Target \$16.00
- Update – Buy – July 31, 2019 – Price Target \$16.00
- Update – Buy – August 7, 2019 – Price Target \$16.00
- Update – Buy – September 5, 2019 – Price Target \$16.00
- Update – Buy – September 17, 2019 – Price Target \$16.00
- Update – Buy – October 24, 2019 – Price Target \$16.00
- Update – Buy – December 2, 2019 – Price Target \$16.00
- Update – Buy – December 4, 2019 – Price Target \$16.00
- Update – Buy – February 4, 2020 – Price Target \$16.00
- Update – Buy – February 7, 2020 – Price Target \$16.00
- Update – Buy – May 8, 2020 – Price Target \$16.00

Update – Buy – May 22, 2020 – Price Target \$16.00  
Update – Buy – June 16, 2020 – Price Target \$16.00  
Update – Buy – July 1, 2020 – Price Target \$16.00  
Update – Buy – October 15, 2020 – Price Target \$16.00  
Update – Buy – November 6, 2020 – Price Target \$16.00  
Update – Buy – December 15, 2020 – Price Target \$16.00  
Price Target Change – Buy – February 19, 2021 – Price Target \$16.0 to \$19.00  
Update – Buy – April 5, 2021 – Price Target \$19.00  
Update – Buy – April 12, 2021 – Price Target \$19.00  
Update – Buy – May 19, 2021 – Price Target \$19.00  
Update – Buy – June 8, 2021 – Price Target \$19.00  
Price Target Change – Buy – June 21, 2021 – Price Target \$35.00  
Update – Buy – June 28, 2021 – Price Target \$35.00  
Update – Buy – October 27, 2021 – Price Target \$35.00  
Update – Buy – November 24, 2021 – Price Target \$35.00  
Update – Buy – January 11, 2022 – Price Target \$35.00  
Update – Buy – February 1, 2022 – Price Target \$35.00  
Update – Buy – February 4, 2022 – Price Target \$35.00  
Update – Buy – February 10, 2022 – Price Target \$39.00  
Update – Buy – June 15, 2022 – Price Target \$39.00  
Update – Buy – August 2, 2022 – Price Target \$39.00  
Update – Buy – August 9, 2022 – Price Target \$39.00  
Update – Buy – October 18, 2022 – Price Target \$39.00  
Update – Buy – November 8, 2022 – Price Target \$39.00  
Update – Buy – November 28, 2022 – Price Target \$39.00  
Update – Buy – November 30, 2022 – Price Target \$39.00  
Update – Buy – December 5, 2022 – Price Target \$39.00  
Update – Buy – February 2, 2023 – Price Target \$39.00  
Update – Buy – February 7, 2023 – Price Target \$39.00  
Update – Buy – March 9, 2023 – Price Target \$39.00  
Update – Buy – March 30, 2023 – Price Target \$39.00  
Update – Buy – May 9, 2023 – Price Target \$39.00  
Update – Buy – June 6, 2023 – Price Target \$39.00  
Update – Buy – June 13, 2023 – Price Target \$39.00  
Update – Buy – June 28, 2023 – Price Target \$39.00  
Update – Buy – August 8, 2023 – Price Target \$39.00  
Update – Buy – September 15, 2023 – Price Target \$39.00  
Update – Buy – October 27, 2023 – Price Target \$39.00

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- 3) **Sell:** The analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

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Current as of 27-Sep-23

	<b>Company Coverage</b>		<b>Investment Banking</b>	
<b>Ratings Distribution</b>	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	22	64.70%	3	8.80%
Market Perform (Neutral)	12	35.30%	3	8.80%
Market Underperform (Sell)	0	0%	0	0.00%
<b>Total</b>	<b>34</b>	<b>100%</b>	<b>6</b>	<b>17.60%</b>

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