Zacks Small-Cap Research

Sponsored – Impartial - Comprehensive

August 20, 2019

John D. Vandermosten, CFA
312-265-9588 / jvandermosten@zacks.com

scr.zacks.com **10 S. Riverside Plaza, Suite 1600, Chicago, IL 60606**

ProMIS Neurosciences Inc (PMN – TSE)

Platform Partnerships Are Focus

Based on our DCF model and a 15% discount rate, PMN is valued at approximately $5.50 per share. We apply a 7% probability of eventual sales of portfolio products in global markets.

Current Price (8/19/19)	$0.21
Valuation	**$5.50**

OUTLOOK

ProMIS is developing a portfolio of monoclonal antibodies to address AD, ALS and PD. The company's lead candidate, PMN310, is able to selectively target toxic oligomers which are thought to be the cause of neuron death in AD. Two proprietary, data-intensive algorithms are used to identify targets on misfolded proteins called ProMIS and Collective Coordinates. These allow for precise and efficient target identification.

ProMIS offers a platform that can generate mAbs specific to toxic forms of proteins found in neurodegenerative disease and determine their efficacy quickly and at low cost using biomarkers. ProMIS has identified trials in AD, PD and ALS that can provide proof of concept data and support further development in target indications. We anticipate continued focus on AD and increased partner involvement.

With recent FDA guidance regarding trial design, there is clearance for more focused endpoints and the use of biomarkers which may accelerate future development in AD. Previous trial results and additional research have refined the optimal drug design and proper target. While still in early stage development, PMN310 makes a compelling case for success and should hold a dominant position in the market if trials are successful and regulatory approval is granted.

SUMMARY DATA

52-Week High	**$0.44**
52-Week Low	**$0.18**
One-Year Return (%)	**-25.0**
Beta	**-1.9**
Average Daily Volume (sh)	**173,789**
Shares Outstanding (mil)	**261**
Market Capitalization ($mil)	**$54.9**
Short Interest Ratio (days)	**2.94**
Institutional Ownership (%)	**N/A**
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 2018 Estimate	**N/A**
P/E using 2019 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Small-Growth**
Industry	**Med-Biomed/Gene**

ZACKS ESTIMATES

Revenue
(in millions of $CAD)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	$0.0 A	$0.0 A	$0.0 A	$0.0 A	$0.0 A
2019	$0.0 A	$0.0 A	$0.0 E	$0.0 E	$0.0 E
2020					$0.0 E
2021					$0.0 E

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	-$0.01 A	-$0.01 A	-$0.01 A	-$0.01 A	-$0.04 A
2019	-$0.01 A	-$0.01 A	-$0.01 E	-$0.01 E	-$0.05 E
2020					-$0.06 E
2021					-$0.05 E

© Copyright 2019, Zacks Investment Research. All Rights Reserved.

WHAT'S NEW

Second Quarter 2019 Operational and Financial Results

Since the end of the first quarter, ProMIS Neurosciences Inc. (TSE: PMN) has had several opportunities to share data on PMN-310 and other in-development monoclonal antibodies (mAbs), raise additional capital add a member to the scientific advisory board (SAB) and identify novel antibodies that bind to the toxic forms of tau.

Financial results for 2Q:19 were provided in a press release and SEDAR filings released on August 13, 2019. The company continued to advance its platform expending $1.9 million[1] in this effort. Research and development expenses were $1.0 million, a 32% reduction from prior year levels due to lower contract research organization (CRO) costs and decreased patent expenditures partially offset by higher contracted research salaries and share-based compensation. General and administrative expenses were $0.8 million, a 19% year over year increase attributable to increased consultant salaries and general corporate expenditures partially offset by lower share-based compensation.

As of June 30, cash stood at $1.3 million, falling $1.2 million compared to year end 2018. Cash burn for the first half of 2019 was ($3.8) million and ($1.5) million in the second quarter.

ProMIS anticipates continued advancement of the platform and has refined its message to prospective partners and investors. The abandonment of Biogen's aducanumab in March has left many in the amyloid beta camp on the defensive. There is less willingness to take on the risk, financial and time commitment required to advance another amyloid beta candidate forward in the recent aftermath of several AD drug failures. Those who are well-versed in the amyloid beta theory realize that toxic oligomers are the target that causes neuronal damange and that the previous Phase III candidates did not pursue this species specifically. Prior defeats either focused on monomers or plaques or were insufficiently specific for the responsible toxic oligomers, diluting their action.

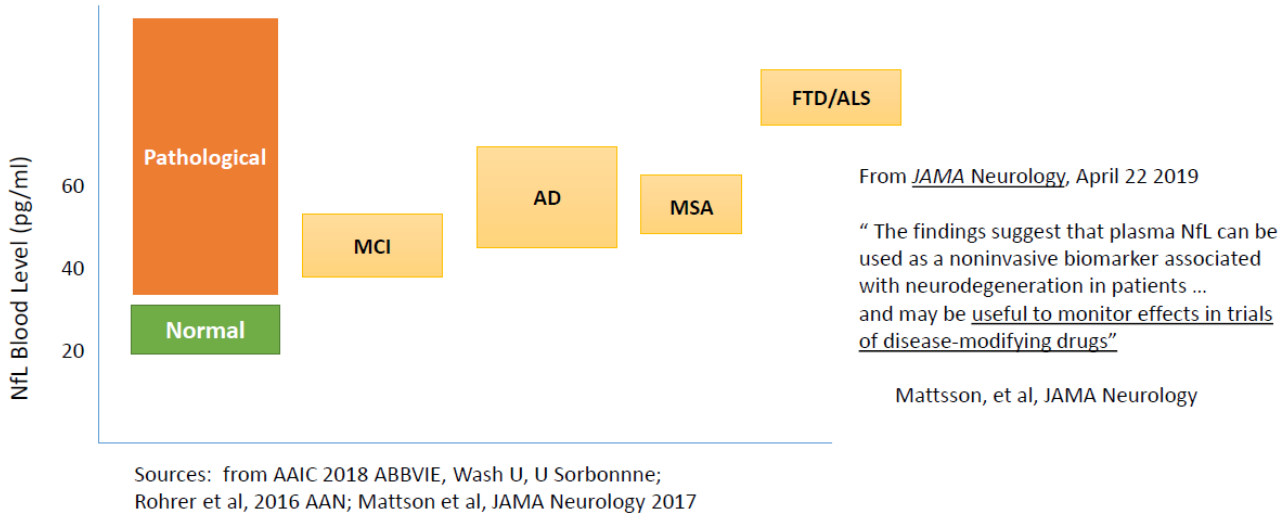
This environment has lead to a lack of capital willing to pursue early stage programs that are focused on amyloid beta and hindered the availability of ProMIS to attract sufficient capital to complete the early manufacture, cell line development and launch the Phase I. To address the changing reality, management has evolved its focus toward its drug discovery platform and the compounds so far identified and highlighted three pillars in the company's value proposition: 1) The root cause of many neurodegenerative diseases is already known, and drugs developed to address the diseases need to focus on the desired target and ignore other proteins. 2) Neurodegenerative diseases are misfolded protein diseases, and the appropriate drug to address them must be highly selective to the toxic form of the protein and avoid inert or physiologically important forms. ProMIS has a proprietary discovery platform that is able to create the complementary antibody to the toxic form. 3) The use of biomarkers is critical to ensure that the designed drug is binding with the target in the desired manner and rendering it inert, allowing for a "go" or "no go" decision early in the development process before substantial capital is spent.

The company is sharing this refined mission with investors and prospective pharmaceutical partners, with whom they are carrying on discussions. While this pushes out our original forecasts for trial launches and ultimate sales, it does open up a wider variety of options that may progress in the company's portfolio.

The approach using biomarkers can be validated with clinical proof of concept trials in specific populations which can generate meaningful data in six to twelve months for $5 to $10 million. The leading biomarker that ProMIS has identified is neurofilament light chain (NfL), which we discussed in further detail here. Not only has the marker proven itself in the lab, but it has also served as a valuable pharmacodynamic marker in multiple sclerosis and spinal muscular atrophy. We see tremendous value in this tool and anticipate it will support an endpoint in ProMIS' future clinical trials.

[1] Currency is denominated in Canadian Dollars

Exhibit I – Neurofilament Light Chain Levels in Neurodegenerative Disease[2]



Sources: from AAIC 2018 ABBVIE, Wash U, U Sorbonnne; Rohrer et al, 2016 AAN; Mattson et al, JAMA Neurology 2017

ProMIS has identified several prospective proof of concept studies in its main therapeutic areas that can be performed quickly and economically to justify further advancement into the clinic. Below we summarize the three targets and programs the company has identified.

- **α-synuclein**
  - Focus is on multiple system atrophy (MSA)
  - Aggressive, rare neurodegenerative disease driven by toxic misfolded, aggregated forms of α-synuclein which attacks oligodendroglia and neurons
  - Serum NfL is markedly elevated in this disorder
- **Amyloid-β**
  - Focus is on AD
  - Proof of concept will be conducted in Down Syndrome patients which see high levels of amyloid-β brain deposits early in life
  - NfL is elevated in Down Syndrome patients and increases rapidly after age 40
- **TDP-43[3]**
  - Focus is onamyotrophic lateral sclerosis (ALS)
  - Aggressive diseases causes the dealth of neurons controlling voluntary muscles
  - Serum NfL is markedly elevated

Tau Antibodies

In a May 28th release, ProMIS identified several antibodies that are able to neutralize toxic oligomer forms of Tau protein. ProMIS has relied on its discovery platforms to identify unique epitopes of these toxic forms then develop antibodies that can selectively bind to the toxic forms of Tau. The selectivity is important as it allows normal forms of the protein to continue unmolested so they can peform their natural function stabilizing the microtubules which regulate cell division, cell morphology, intracellular transport, and axonal stability. ProMIS has relied on its proprietary algorithms to identify unique signatures of these neurotoxic proteins, which is able to produce validated candidates in months rather than years, helping to address one of the major obstacles facing drug development: time. In combination with antibodies devleoped for AD, PMN310 representing the prime example, ProMIS may be able to attack Alzheimer's Disease from multiple directions, helping reduce and halt its impacts on the brain.

[2] Source: PMN August 2019 Slide Deck
[3] TAR DNA-binding protein 43 (TDP-43, transactive response DNA binding protein), is a protein that in humans is encoded by the TARDBP gene.

Partnerships

ProMIS is currently in confidential discussions with potential partners for the ALS and PD assets which may provide capital via upfront payments to advance PMN310 into the clinic. An equity capital raise and significant investment from a strategic partner are other mechanisms through which it can raise funds to advance the lead candidate.

ProMIS has made it clear that they are seeking a partner to help develop the pipeline. The company's unique platform to identify unique epitopes provides data that makes the therapeutic antibodies produced very valuable. Confidential discussions are currently underway with unidentified partners to develop these programs. In a recent presentation the company highlighted two deals in the hundreds of millions of dollars with Prothena / Roche and BioArctic / ABBVIE (in blue below) along with a comparison of candidates in the neurodegenerative space.

Exhibit II – Comparison of Drug Properties & Associated Deals

Target Properties	PMN Antibodies	Prothena/ Roche	BioArctic/ ABBVIE	Neurimmune/ Biogen
No binding to monomers	✓	X	+/-	X
No binding to physiological tetramers	✓	X	+/-	X
Binding to toxic oligomers/small soluble fibrils	✓	✓	✓	✓
Binding to native toxic α-syn in LBD/PD brain extract	✓	✓	✓	✓
Little or no binding to insoluble fibrils (Lewy bodies)	✓	X	X	X
		Deal 2013 $645MM + Profit Share	Deal 2016 $735MM + Royalties	

Additions to the Team

ProMIS has added several distingushed individuals to its advisory boards and management team over the last year. We see the additions as providing a diverse set of relationships, experiences and competencies to the group that will advance the AD, PD and ALS programs.

Timothy Rothwell was added to the Business Advisory Board in February. He has expierence as former U.S. CEO and Chairman for Sanofi-Aventis, CEO of Sandoz Pharmaceuticals and president of Rhone-Poulenc Rorer Pharmaceuticals. We see his experience and contacts in the industry as indispensable to making introductions to the decision-makers that comprise the opportunity set for partners in the ALS and PD program assets.

In June, C. Warren Olanow joined ProMIS' scientific advisory board with considerable experience in neurodegeneration and Parkinson's Disease, an area where he has authored over 300 publications. Dr. Olanow will work with the other members of the board to help guide develop the PD, AD and ALS programs. He joins the six other members of the scientific advisory board.

Significant Event Timeline

ProMIS has a number of recent and upcoming milestones related to development of its pipeline which we summarize below.

- Confidential discussions with potential partners for platform programs - Ongoing
- CAD$2.2 million capital raise – January 2019
- PMN310 scale up manufacturing – 2019
- CAD$1.2 million capital raise – June 2019
- Prepare for IND and Phase I trial for PMN310 – 2019/2020
- Generate Phase I biomarker data - 2020

Summary

ProMIS has continued to advance its programs, highlighting new data that supports the superior selectivity of PMN310 and identifying new antibodies that are selective for neurotoxic forms of tau. Parallel with these endeavors is continued interaction with the scientific, investment and corporate community to present the potential of the company's platform to garner KOL support, financing and partnerships. Management has refined its message highlighting the need to focus on the toxic forms of misfolded proteins that are the root cause of neurodegenerative disease and the importance of biomarkers that can rapidly and inexpensively demonstrate efficacy. We continue to be impressed with ProMIS' discovery platforms and their ability to identify unique features of toxic misfolded proteins. We anticipate that any pharmaceutical partner deal or large investment will allow the company to advance its candidates into the clinic.

We believe ProMIS represents an attractive opportunity to gain exposure to an immense disease area with no other approved disease modifying therapies. There are almost six million persons with AD in the US and over 30 million outside of the US that suffer from it. Additionally, there is a larger population with mild cognitive impairment (MCI) and pre-Alzheimer's which may benefit even more from toxic oligomer sequestering therapy. There is also substantial opportunity for drug development in Parkinson's Disease and ALS. The path forward is relatively clear with other assets setting the precedent for trial design and potentially accelerated approaches using biomarkers suggested by regulatory agencies. Due to the environment following the failure of aducanumab, the investment community is hesitant to put new money to work in amyloid-β programs now. This is despite the evidence that other programs were focused on the wrong target and substantial research support that toxic oligomers are the correct target. The delay in obtaining capital has pushed out our estimates of first sales which reduce our target price to CAD$5.50. We continued to believe in the potential for PMN310 and the other candidates in development and the tremendous opportunity in AD and other neurodegenerative diseases due to the lack of effective therapies and the magnitude of the need.

PROJECTED FINANCIALS

ProMIS Neurosciences Inc - Income Statement

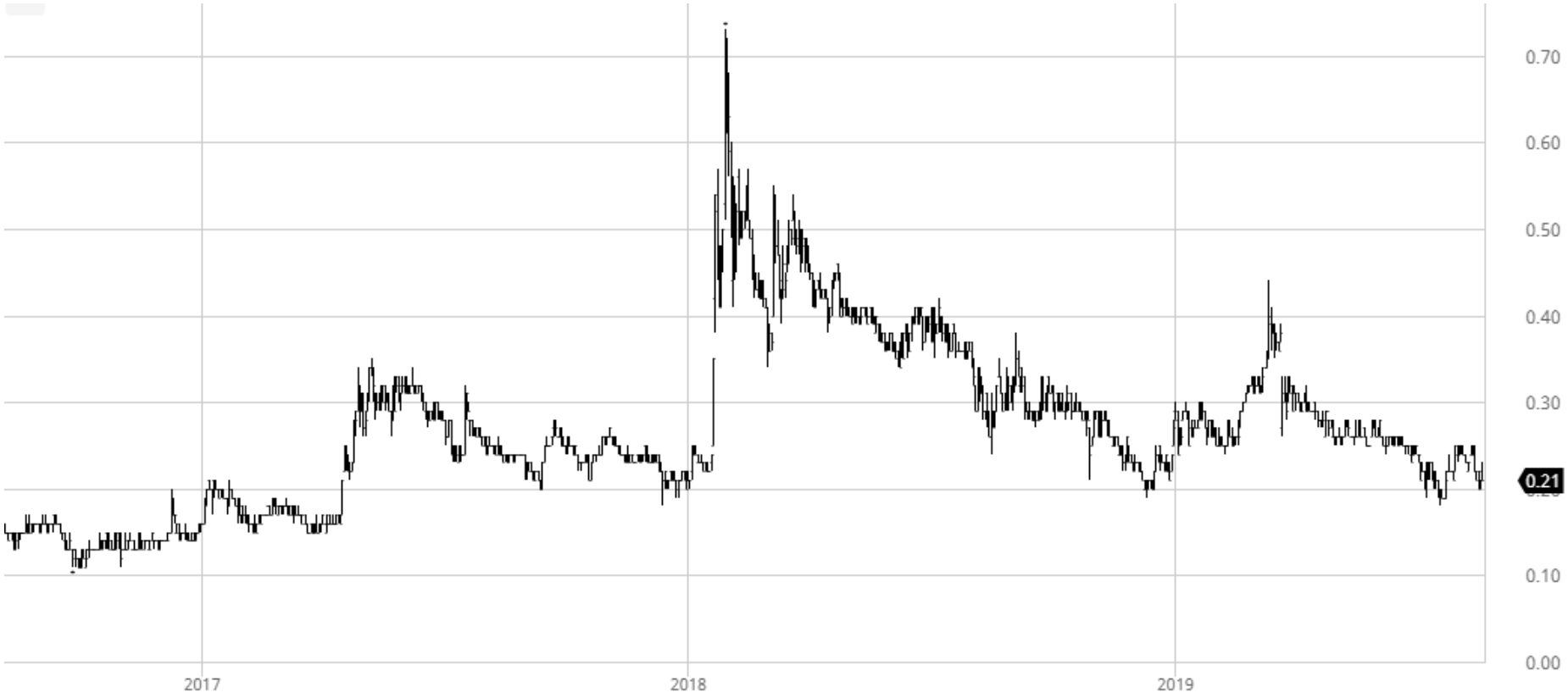
ProMIS Neurosciences Inc.	2018 A	Q1 A	Q2 A	Q3 E	Q4 E	2019 E	2020 E	2021 E
Total Revenues (CAD$)	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
R&D	$7.4	$1.8	$1.0	$4.0	$4.0	$10.8	$16.9	$17.5
G&A	$2.8	$0.7	$0.8	$0.7	$0.6	$2.7	$3.1	$3.3
Operating Income	($10.2)	($2.4)	($1.9)	($4.7)	($4.6)	($13.6)	($20.0)	($20.8)
Operating Margin								
Amort of Financing & Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Pre-Tax Income	($10.2)	($2.4)	($1.9)	($4.7)	($4.6)	($13.6)	($20.0)	($20.8)
Taxes & Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	
Tax Rate								
Net Income	($10.2)	($2.4)	($1.9)	($4.7)	($4.6)	($13.6)	($20.0)	($20.8)
Reported EPS	**($0.04)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.05)**	**($0.06)**	**($0.05)**
YOY Growth								
Shares Outstanding	239.2	254.1	256.9	312.0	318.0	285.3	345.0	400.0

Source: Company Filing // Zacks Investment Research, Inc. Estir

© Copyright 2019, Zacks Investment Research. All Rights Reserved.

HISTORICAL STOCK PRICE

ProMIS Neurosciences Inc – Historical Price Chart[4]



[4] Chart provided courtesy of www.barchart.com

DISCLOSURES

The following disclosures relate to relationships between Zacks Small-Cap Research ("Zacks SCR"), a division of Zacks Investment Research ("ZIR"), and the issuers covered by the Zacks SCR Analysts in the Small-Cap Universe.

ANALYST DISCLOSURES

I, John Vandermosten, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report. I believe the information used for the creation of this report has been obtained from sources I considered to be reliable, but I can neither guarantee nor represent the completeness or accuracy of the information herewith. Such information and the opinions expressed are subject to change without notice.

INVESTMENT BANKING AND FEES FOR SERVICES

Zacks SCR does not provide investment banking services nor has it received compensation for investment banking services from the issuers of the securities covered in this report or article.
Zacks SCR has received compensation from the issuer directly, from an investment manager or from an investor relations consulting firm engaged by the issuer for providing non-investment banking services to this issuer and expects to receive additional compensation for such non-investment banking services provided to this issuer. The non-investment banking services provided to the issuer includes the preparation of this report, investor relations services, investment software, financial database analysis, organization of non-deal road shows, and attendance fees for conferences sponsored or co-sponsored by Zacks SCR. The fees for these services vary on a per-client basis and are subject to the number and types of services contracted. Fees typically range between ten thousand and fifty thousand dollars per annum. Details of fees paid by this issuer are available upon request.

POLICY DISCLOSURES

This report provides an objective valuation of the issuer today and expected valuations of the issuer at various future dates based on applying standard investment valuation methodologies to the revenue and EPS forecasts made by the SCR Analyst of the issuer's business.
SCR Analysts are restricted from holding or trading securities in the issuers that they cover. ZIR and Zacks SCR do not make a market in any security followed by SCR nor do they act as dealers in these securities. Each Zacks SCR Analyst has full discretion over the valuation of the issuer included in this report based on his or her own due diligence. SCR Analysts are paid based on the number of companies they cover. SCR Analyst compensation is not, was not, nor will be, directly or indirectly, related to the specific valuations or views expressed in any report or article.

ADDITIONAL INFORMATION

Additional information is available upon request. Zacks SCR reports and articles are based on data obtained from sources that it believes to be reliable, but are not guaranteed to be accurate nor do they purport to be complete. Because of individual financial or investment objectives and/or financial circumstances, this report or article should not be construed as advice designed to meet the particular investment needs of any investor. Investing involves risk. Any opinions expressed by Zacks SCR Analysts are subject to change without notice. Reports or articles or tweets are not to be construed as an offer or solicitation of an offer to buy or sell the securities herein mentioned.

CANADIAN DISCLAIMER

This research report is a product of Zacks SCR and prepared by a research analyst who is employed by or is a consultant to Zacks SCR. The research analyst preparing the research report is resident outside of Canada and is not an associated person of any Canadian registered adviser and/or dealer and, therefore, the analyst is not subject to supervision by a Canadian registered adviser and/or dealer, and is not required to satisfy the regulatory licensing requirements of any Canadian provincial securities regulators, the Investment Industry Regulatory Organization of Canada and is not required to otherwise comply with Canadian rules or regulations.

© Copyright 2019, Zacks Investment Research. All Rights Reserved.