CANACCORD Genuity

To us there are no foreign markets.™

Kite Pharma

Biotechnology

US Equity Research
12 May 2015

BUY
unchanged

PRICE TARGET	US$90.00
unchanged	
Price (11-May)	US$55.75
Ticker	KITE-NASDAQ

52-Week Range (US$):	21.00 - 89.21
Avg Daily Vol (M) :	880.2
Shares Out. (M) :	38.3
Market Cap (US$M):	2,137

FYE Dec	2013A	2014A	2015E
Revenue (US$M)	0.0	0.0	0.0
EPS Adj&Dil (US$)	(1.42)	(1.91)	(1.65)

Quarterly Revenue	Q1	Q2	Q3	Q4
2013A	-	-	-	-
2014A	0.0	0.0	0.0	0.0
2015E	0.0	0.0	0.0	0.0

Quarterly EPS Adj&Dil	Q1	Q2	Q3	Q4
2013A	-	-	-	-
2014A	(0.66)	(2.27)	(0.24)	(0.33)
2015E	(0.42)	(0.41)	(0.42)	(0.40)

Kite Pharma is focused on development of novel cancer immunotherapy using engineered autologous cell therapy (eACT).

John Newman, PhD | Canaccord Genuity Inc. (US) | JNewman@canaccordgenuity.com | 212.389.8042
Kevin Dai, PharmD, BCOP | Canaccord Genuity Inc. (US) | kdai@canaccordgenuity.com | 212.389.8043

Company Update

Expectations low for EGFRvIII-CART in glioma

UPenn/NVS EGFRvIII-CART study risky, update at ASGCT

UPenn investigators will present data for three EGFRvIII+ glioblastoma patients treated with EGFRvIII CART at the American Society for Gene and Cell Therapy (ASGCT) May 13-16, but we continue to believe the program in glioma is high risk *(see abstract on page 3)*. The abstract shows that the drug is safe with no evidence of off-tumor toxicity, but we believe efficacy may be sacrificed as a result. We spoke with multiple KOLs/ investigators and carefully examined the literature, resulting in our cautious position. Ultimately, we believe EGFRvIII CART constructs have a low probability of success in gliomas, although we believe CART and TCR technology will be successful in other solid tumors.

Lower affinity EGFR target may limit efficacy, malignant glioma highly variable

UPenn decided to pursue a lower-affinity single chain variable fragment (scFv) anti-EGFRvIII to minimize potential CART recognition of the EGFRwt protein for safety reasons (Johnson L. *Immunotherapy*. 2015), which may limit efficacy. Because EGFR wild-type (EGFRwt) is expressed in a variety of normal tissues (epithelial tissues), EGFR variant III was chosen in order to minimize off-target toxicity. Importantly cells within this tumor often exhibit significant antigenic heterogeneity, which confounds immunotherapeutic approaches like EGFRvIII-CART designed to target single tumor-specific antigens (multiantigenic therapies may be necessary). Prior EGFRvIII-targeted vaccinations proved this point, where trials in Duke Medical Center showed that the majority of recurrent tumors after vaccination no longer expressed EGFRvIII. Interestingly, Celldex's EGFRvIII vaccine did show an Overall Suvival benefit in malignant glioma in Phase 2, but only when combined with Avastin.

Current preclinical models non-ideal, CNS shows low immunogenicity

Current preclinical models for glioma cells are mainly derived from a modified, overexpressed cell line for EGFRvIII rather than growing glioma cells in a culture, because primary glioma cells often lose EGFRvIII expression in culture. This manipulated tumor model of heightened EGFRvIII expression is likely not representative of the actual disease, where glioma tumors are composed of a heterogeneous cell populations, decreasing the read through from these preclinical data. Also, multiple publications have shown that the CNS has a low immunogenicity, or is "immune privileged," as demonstrated by the absence of antigen presenting cells (APCs) within the brain and lack of draining lymph nodes for T cell infiltration.

Expect KITE success in other solid tumors, melanoma

We expect positive data for KITE in other solid tumors, such as melanoma, holding long-term upside potential for the stock. Dr. Steven Rosenberg recently presented positive updated data at AACR for NY-ESO-1 TCR therapy against melanoma (n=19) and synovial cell sarcoma (n=15), showing a 53% response rate for melanoma, including a 21% Complete Response rate, and a 67% response rate for synovial sarcoma.

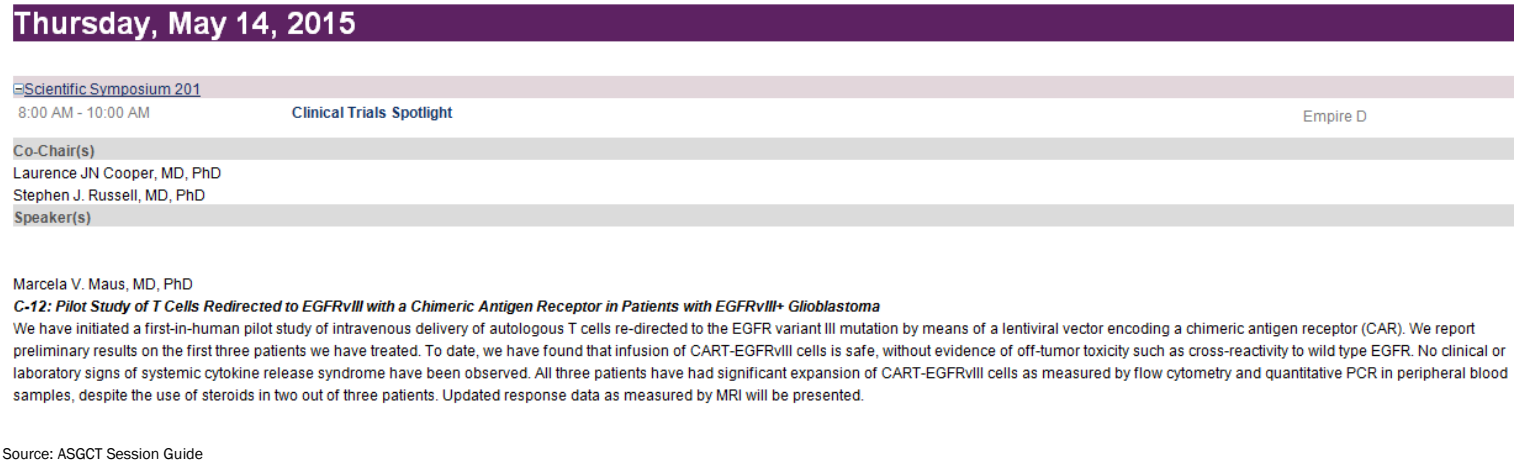
Our target price of $90 is based on a probability-adjusted NPV valuation.

Expectations remain conservative on data for EGFRvIII-CART

Although efficacy data on 3 patients will be presented at ASGCT this Thursday, we continue to believe the results will remain lackluster, although in limited patient numbers. Unlike ASCO or ASH, where companies and institutions will present clinical data they deem to show meaningful clinical efficacy, the American Society of Gene and Cell Therapy program is more focused on research and science in hopes of building on lessons learned in the laboratory or from early clinical data. Investigators will often present early data on safety and current progress, which remains important from an educational standpoint, but may be disappointing or not meaningful from an investor standpoint. Therefore, we do not hold expectations for meaningful clinical efficacy for EGFRvIII-CART in these 3 glioma patients.

We remind investors of the stock weakness for KITE following Novartis' CART-meso data presented by Carl June at AACR. Initially, JUNO, NVS, BLCM, and KITE surged when it was announced that Carl June would present data for CART-meso in solid tumors at AACR, but a significant sell-off occurred when the data showed lack of efficacy (n = 4/6 stable disease). The data were important to investigators and researchers, validating the safety of the CART-meso program, which is important from an early program perspective. However, we believe Wall Street's expectations for these early programs were too high (given the success with CD19 CART in hematology), resulting in weakness after the CART-meso data were presented at AACR. Therefore, we have low expectations for EGFRvIII-CART data at ASGCT in glioma.

Figure 1: EGFRvIII-CART in Glioma at ASGCT



Thursday, May 14, 2015

Scientific Symposium 201

8:00 AM - 10:00 AM Clinical Trials Spotlight Empire D

Co-Chair(s)

Laurence JN Cooper, MD, PhD

Stephen J. Russell, MD, PhD

Speaker(s)

Marcela V. Maus, MD, PhD

C-12: Pilot Study of T Cells Redirected to EGFRvIII with a Chimeric Antigen Receptor in Patients with EGFRvIII+ Glioblastoma

We have initiated a first-in-human pilot study of intravenous delivery of autologous T cells re-directed to the EGFR variant III mutation by means of a lentiviral vector encoding a chimeric antigen receptor (CAR). We report preliminary results on the first three patients we have treated. To date, we have found that infusion of CART-EGFRvIII cells is safe, without evidence of off-tumor toxicity such as cross-reactivity to wild type EGFR. No clinical or laboratory signs of systemic cytokine release syndrome have been observed. All three patients have had significant expansion of CART-EGFRvIII cells as measured by flow cytometry and quantitative PCR in peripheral blood samples, despite the use of steroids in two out of three patients. Updated response data as measured by MRI will be presented.

Source: ASGCT Session Guide

ABSTRACT:

C-12: Pilot Study of T Cells Redirected to EGFRvIII with a Chimeric Antigen Receptor in Patients with EGFRvIII+ Glioblastoma

We have initiated a first-in-human pilot study of intravenous delivery of autologous T cells re-directed to the EGFR variant III mutation by means of a lentiviral vector encoding a chimeric antigen receptor (CAR). We report preliminary results on the first three patients we have treated. To date, we have found that infusion of CART-EGFRvIII cells is safe, without evidence of off-tumor toxicity such as cross-reactivity to wild type EGFR. No clinical or laboratory signs of systemic cytokine release syndrome have been observed. All three patients have had significant expansion of CART-EGFRvIII cells as measured by flow cytometry and quantitative PCR in peripheral blood samples, despite the use of steroids in two out of three patients. Updated response data as measured by MRI will be presented.

Figure 2: KITE income statement

($000's) [FY - DEC]	2014A	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E	2019E	2020E
Revenues											
CAR T											
US	-	-	-	-	-	-	-	263,453	795,983	1,176,814	1,255,539
Ex-US	-	-	-	-	-	-	-	179,806	516,481	800,327	1,031,009
Ex-US royalty	-	-	-	-	-	-	-	26,971	77,472	120,049	154,651
Total revenues	-	-	-	-	-	-	-	**290,423**	**873,455**	**1,296,863**	**1,410,191**
Income Statement ($000's)	**2014A**	**1Q15E**	**2Q15E**	**3Q15E**	**4Q15E**	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**
Total revenues	-	-	-	-	-	-	-	**290,423**	**873,455**	**1,296,863**	**1,410,191**
Cost of goods sold	-	-	-	-	-	-	-	52,691	159,197	235,363	251,108
Gross profit	-	-	-	-	-	-	-	**237,733**	**714,259**	**1,061,500**	**1,159,083**
Operating expenses											
Research and Development	23,089	11,936	11,936	12,055	12,175	48,102	49,064	61,329	76,662	95,827	119,784
SG&A	13,569	5,452	5,506	5,562	5,617	22,137	23,244	23,477	24,416	25,392	26,408
Depreciation and amortization	264					-					
Total Operating Expense	**36,658**	**17,388**	**17,442**	**17,616**	**17,793**	**70,239**	**72,308**	**84,806**	**101,077**	**121,219**	**146,192**
EBITDA	(36,658)	**(17,388)**	**(17,442)**	**(17,616)**	**(17,793)**	(70,239)	(72,308)	152,927	613,181	940,281	1,012,891
Operating income (EBIT)	**(36,658)**	**(17,388)**	**(17,442)**	**(17,616)**	**(17,793)**	**(70,239)**	(72,308)	152,927	613,181	940,281	1,012,891
Non-operating Interest income	358	**757**	**696**	**626**	**631**	2,711	2,350	3,195	7,271	14,595	23,777
Other income/interest expense	(6,269)										
Pre-tax income (EBT)	**(42,569)**	**(16,630)**	**(16,747)**	**(16,990)**	**(17,161)**	**(67,528)**	**(69,958)**	**156,122**	**620,452**	**954,876**	**1,036,668**
Provision for Income Taxes	-	-	-	-	-	-	-	57,765	229,567	353,304	383,567
Net Income	**(42,569)**	**(16,630)**	**(16,747)**	**(16,990)**	**(17,161)**	**(67,528)**	**(69,958)**	**98,357**	**390,885**	**601,572**	**653,101**
Preferred Dividends	**1,089**										
Net Income to Common Shareholders	**(43,658)**										
Adjustments to Net income											
GAAP EPS	**($1.91)**	**($0.42)**	**($0.41)**	**($0.42)**	**($0.40)**	**($1.65)**	**($1.65)**	**$2.09**	**$7.40**	**$10.17**	**$9.86**
Adjusted EPS excl options expense											
Diluted Weighted Average Shares	22,822,204	39,739,141	40,533,924	40,939,263	42,491,513	40,925,960	42,458,765	47,145,164	52,802,584	59,138,894	66,235,561

Source: Company Reports, Canaccord Genuity estimates

Figure 3: KITE valuation

Product	Peak Sales/Royalty ($MM)	Year	NPV at launch	Estimated launch	Time to launch	Probability Adjustment	Current Value ($MM)	Value / Share
KTE-C19								
US								
DLBCL US	$691	2020	$2,854	10/1/2017	2.4	70%	$1,545	$40
CLL US	$83	2021	$311	10/1/2018	3.4	60%	$130	$3
ALL US	$195	2021	$948	10/1/2018	3.4	65%	$428	$11
FL US	$165	2021	$711	10/1/2018	3.4	60%	$297	$8
MCL US	$164	2021	$707	10/2/2018	3.4	60%	$295	$8
US - total	**$1,298**	**2020**	**$5,531**	**10/1/2018**	**3.4**	60%	**$2,306**	**$69**
Ex-US								
DLBCL royalty Ex-US	$53	2020	$496	6/1/2018	3.1	70%	$250	$6
CLL royalty Ex-US	$6	2021	$55	6/1/2019	4.1	60%	$21	$1
ALL royalty Ex-US	$15	2021	$139	6/1/2019	4.1	65%	$59	$2
FL royalty Ex-US	$13	2021	$107	6/2/2019	4.1	60%	$42	$1
MCL royalty Ex-US	$12	2021	$107	6/3/2019	4.1	60%	$41	$1
Ex-US - royalty - total	**$99**	**2020**	**$973**	**6/1/2018**	**3.1**	60%	**$420**	**$11**
Total Product Value							**$3,114**	**$80**
Cash							$400	$10.3
Total Equity Value							**$3,514**	**$90**
Shares Outstanding (MM)							39	

Risk-Free Rate	3.0%
Beta	1.8
Risk Premium	5%
Discount Rate	11%

Source: Company Reports, Canaccord Genuity estimates

Appendix: Important Disclosures

Analyst Certification

Each authoring analyst of Canaccord Genuity whose name appears on the front page of this research hereby certifies that (i) the recommendations and opinions expressed in this research accurately reflect the authoring analyst's personal, independent and objective views about any and all of the designated investments or relevant issuers discussed herein that are within such authoring analyst's coverage universe and (ii) no part of the authoring analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the authoring analyst in the research.

Analysts employed outside the US are not registered as research analysts with FINRA. These analysts may not be associated persons of Canaccord Genuity Inc. and therefore may not be subject to the NASD Rule 2711 and NYSE Rule 472 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

Target Price / Valuation Methodology:

Kite Pharma - KITE

Our target price is $90, based on a probability adjusted NPV valuation.

Risks to achieving Target Price / Valuation:

Kite Pharma - KITE

Although NCI is conducting a phase 1-2a trial of anti-CD19 CAR T-cell therapy, KITE's KTE-C19 trial has not begun. Any delays or significant negative results from NCI's clinical trials could negatively affect Kite's IND application and delay the timing to start their own phase 1-2 clinical trial. KITE is highly dependent on the third parties for R&D and early clinical testing of CAR and TCR product candidates. These collaborations related to the intellectual property licensed from the NIH relating to product candidates targeting the EGFRvIII antigen, the SSX2 antigen and the NY-ESO-1 antigen and from Cabaret for intellectual property relating to KTE-C19. The differences in manufacturing compared to NCI may render the product incomparable, particularly with respect to clinical trials, which could negatively affect our valuation. Although plans for manufacturing and processing is based on current approach undertaken by the NCI, the company cannot ensure that even minor changes in the product process will not result in significantly different T-cells that may not have similar efficacy or toxicity. KTE-C19 could fail in clinical studies, resulting in significant downside to our price target and shares of the stock. Kite faces significant competition from other biotechnology and pharmaceutical companies in the space of immunotherapy, including Novartis, Juno, Bluebird, Cellectis and Adaptimmune, as well as companies developing novel targeted therapies for cancer.

Distribution of Ratings:

Global Stock Ratings (as of 05/12/15)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	577	57.99%	32.24%
Hold	335	33.67%	16.12%
Sell	38	3.82%	2.63%
Speculative Buy	45	4.52%	55.56%
	995*	100.0%	

*Total includes stocks that are Under Review

Canaccord Genuity Ratings System

BUY: The stock is expected to generate risk-adjusted returns of over 10% during the next 12 months.

HOLD: The stock is expected to generate risk-adjusted returns of 0-10% during the next 12 months.

SELL: The stock is expected to generate negative risk-adjusted returns during the next 12 months.

NOT RATED: Canaccord Genuity does not provide research coverage of the relevant issuer.

"Risk-adjusted return" refers to the expected return in relation to the amount of risk associated with the designated investment or the relevant issuer.

Risk Qualifier

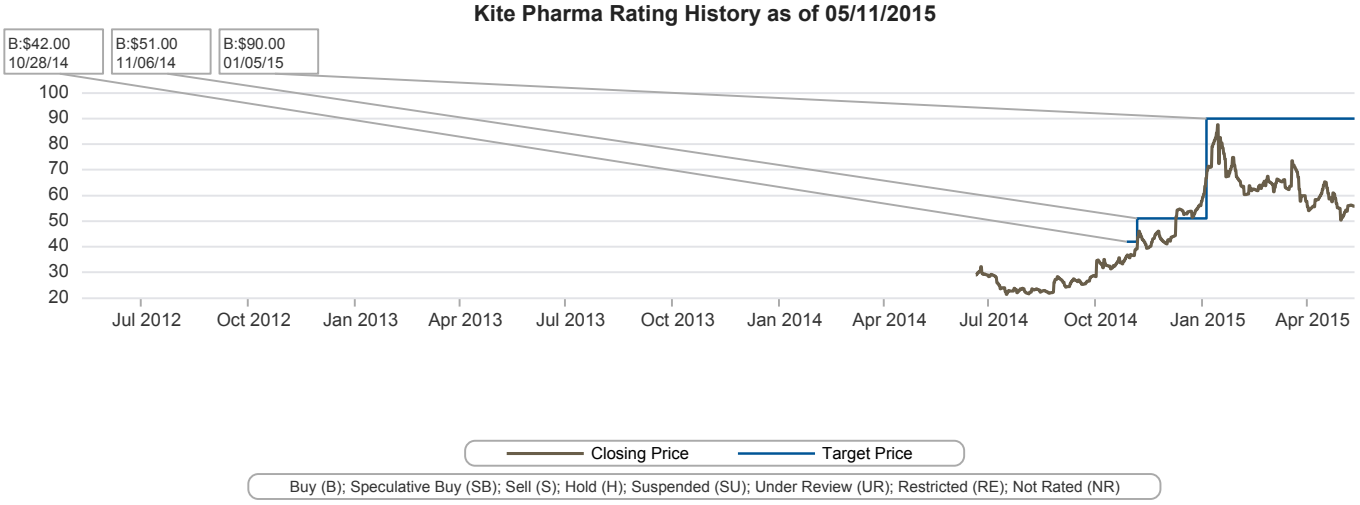
SPECULATIVE: Stocks bear significantly higher risk that typically cannot be valued by normal fundamental criteria. Investments in the stock may result in material loss.

Canaccord Genuity Company-Specific Disclosures (as of date of this publication)

Canaccord Genuity or one or more of its affiliated companies is a market maker or liquidity provider in the securities of Kite Pharma or in any related derivatives.

Canaccord Genuity or one or more of its affiliated companies intend to seek or expect to receive compensation for Corporate Finance/ Investment Banking services from Kite Pharma in the next six months.

Kite Pharma Rating History as of 05/11/2015



General Disclosures

"Canaccord Genuity" is the business name used by certain wholly owned subsidiaries of Canaccord Genuity Group Inc., including Canaccord Genuity Inc., Canaccord Genuity Limited, Canaccord Genuity Corp., and Canaccord Genuity (Australia) Limited, an affiliated company that is 50%-owned by Canaccord Genuity Group Inc.

The authoring analysts who are responsible for the preparation of this research are employed by Canaccord Genuity Corp. a Canadian broker-dealer with principal offices located in Vancouver, Calgary, Toronto, Montreal, or Canaccord Genuity Inc., a US broker-dealer with principal offices located in New York, Boston, San Francisco and Houston, or Canaccord Genuity Limited., a UK broker-dealer with principal offices located in London (UK) and Dublin (Ireland), or Canaccord Genuity (Australia) Limited, an Australian broker-dealer with principal offices located in Sydney and Melbourne.

The authoring analysts who are responsible for the preparation of this research have received (or will receive) compensation based upon (among other factors) the Corporate Finance/Investment Banking revenues and general profits of Canaccord Genuity. However, such authoring analysts have not received, and will not receive, compensation that is directly based upon or linked to one or more specific Corporate Finance/Investment Banking activities, or to recommendations contained in the research.

Canaccord Genuity and its affiliated companies may have a Corporate Finance/Investment Banking or other relationship with the issuer that is the subject of this research and may trade in any of the designated investments mentioned herein either for their own account or the accounts of their customers, in good faith or in the normal course of market making. Accordingly, Canaccord Genuity or their affiliated companies, principals or employees (other than the authoring analyst(s) who prepared this research) may at any time have a long or short position in any such designated investments, related designated investments or in options, futures or other derivative instruments based thereon.

Some regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of research. This research has been prepared in accordance with Canaccord Genuity's policy on managing conflicts of interest, and information barriers or firewalls have been used where appropriate. Canaccord Genuity's policy is available upon request.

The information contained in this research has been compiled by Canaccord Genuity from sources believed to be reliable, but (with the exception of the information about Canaccord Genuity) no representation or warranty, express or implied, is made by Canaccord Genuity, its affiliated companies or any other person as to its fairness, accuracy, completeness or correctness. Canaccord Genuity has not independently verified the facts, assumptions, and estimates contained herein. All estimates, opinions and other information contained in this research constitute Canaccord Genuity's judgement as of the date of this research, are subject to change without notice and are provided in good faith but without legal responsibility or liability.

Canaccord Genuity's salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desk that reflect opinions that are contrary to the opinions expressed in this research. Canaccord Genuity's affiliates, principal trading desk, and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

This research is provided for information purposes only and does not constitute an offer or solicitation to buy or sell any designated investments discussed herein in any jurisdiction where such offer or solicitation would be prohibited. As a result, the designated investments discussed in this research may not be eligible for sale in some jurisdictions. This research is not, and under no

circumstances should be construed as, a solicitation to act as a securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. This material is prepared for general circulation to clients and does not have regard to the investment objectives, financial situation or particular needs of any particular person. Investors should obtain advice based on their own individual circumstances before making an investment decision. To the fullest extent permitted by law, none of Canaccord Genuity, its affiliated companies or any other person accepts any liability whatsoever for any direct or consequential loss arising from or relating to any use of the information contained in this research.

For Canadian Residents:

This research has been approved by Canaccord Genuity Corp., which accepts sole responsibility for this research and its dissemination in Canada. Canadian clients wishing to effect transactions in any designated investment discussed should do so through a qualified salesperson of Canaccord Genuity Corp. in their particular province or territory.

For United States Residents:

Canaccord Genuity Inc., a US registered broker-dealer, accepts responsibility for this research and its dissemination in the United States. This research is intended for distribution in the United States only to certain US institutional investors. US clients wishing to effect transactions in any designated investment discussed should do so through a qualified salesperson of Canaccord Genuity Inc. Analysts employed outside the US, as specifically indicated elsewhere in this report, are not registered as research analysts with FINRA. These analysts may not be associated persons of Canaccord Genuity Inc. and therefore may not be subject to the NASD Rule 2711 and NYSE Rule 472 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

For United Kingdom and European Residents:

This research is distributed in the United Kingdom and elsewhere Europe, as third party research by Canaccord Genuity Limited, which is authorized and regulated by the Financial Conduct Authority. This research is for distribution only to persons who are Eligible Counterparties or Professional Clients only and is exempt from the general restrictions in section 21 of the Financial Services and Markets Act 2000 on the communication of invitations or inducements to engage in investment activity on the grounds that it is being distributed in the United Kingdom only to persons of a kind described in Article 19(5) (Investment Professionals) and 49(2) (High Net Worth companies, unincorporated associations etc) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended). It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. This material is not for distribution in the United Kingdom or elsewhere in Europe to retail clients, as defined under the rules of the Financial Conduct Authority.

For Jersey, Guernsey and Isle of Man Residents:

This research is sent to you by Canaccord Genuity Wealth (International) Limited (CGWI) for information purposes and is not to be construed as a solicitation or an offer to purchase or sell investments or related financial instruments. This research has been produced by an affiliate of CGWI for circulation to its institutional clients and also CGWI. Its contents have been approved by CGWI and we are providing it to you on the basis that we believe it to be of interest to you. This statement should be read in conjunction with your client agreement, CGWI's current terms of business and the other disclosures and disclaimers contained within this research. If you are in any doubt, you should consult your financial adviser.

CGWI is licensed and regulated by the Guernsey Financial Services Commission, the Jersey Financial Services Commission and the Isle of Man Financial Supervision Commission. CGWI is registered in Guernsey and is a wholly owned subsidiary of Canaccord Genuity Group Inc.

For Australian Residents:

This research is distributed in Australia by Canaccord Genuity (Australia) Limited ABN 19 075 071 466 holder of AFS Licence No 234666. To the extent that this research contains any advice, this is limited to general advice only. Recipients should take into account their own personal circumstances before making an investment decision. Clients wishing to effect any transactions in any financial products discussed in the research should do so through a qualified representative of Canaccord Genuity (Australia) Limited. Canaccord Genuity Wealth Management is a division of Canaccord Genuity (Australia) Limited.

For Singapore Residents:

This research is distributed pursuant to 32C of the Financial Advisers under an arrangement between each of the Canaccord Genuity entities that publish research and Canaccord Genuity Singapore Pte. Ltd who are an exempt financial adviser under section 23(1)(d) of the Financial Advisers Act. This research is only intended for persons who fall within the definition of accredited investor, expert investor or institutional investor as defined under section 4A of the Securities and Futures Act It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. Recipients of this report can contact Canaccord Genuity Singapore Pte. Ltd. (Contact Person: Tom Gunnersen's tel # is +852 3919 2561) in respect of any matters arising from, or in connection with, the [analyses or report].

For Hong Kong Residents:

This research is distributed in Hong Kong by Canaccord Genuity (Hong Kong) Limited who is licensed by the Securities and Futures Commission. This research is only intended for persons who fall within the definition of professional investor as defined in the Securities and Futures Ordinance. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons. Recipients of

this report can contact Canaccord Genuity (Hong Kong). Ltd. (Contact Person: Tom Gunnersen's tel # is +852 3919 2561) in respect of any matters arising from, or in connection with, the research.

Additional information is available on request.