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Q4 2007 Capital Markets Review
for the
Canadian Life Sciences Industry

The Equicom Life Sciences Team
February 14, 2008

The Canadian life sciences industry raised a disappointing \$89 million in the fourth quarter from only seven follow-on financings by public companies. Although the 2007 total was just under \$1,100 million from 42 completed deals, funding declined on a quarter over quarter basis throughout the year. Share prices also continued to decline in the fourth quarter. For example, the average share price decline during the fourth quarter for the sixteen companies in the Canadian Life Sciences Phase 3 Therapeutics Portfolio was 23% (as described on page 7).

Partnering deals supply large quantities of money, expertise and other assets that are needed by the smaller life sciences companies to complete the commercialization of new drug products. Partnering deals come in all shapes and sizes and in the Q3 2007 Review we looked at the key deal terms for the ARIAD – Merck deal announced on July 12, 2007 for ARIAD’s mTOR inhibitor AP23573. In December, BioMS signed a global licensing and development agreement with Eli Lilly for its multiple sclerosis therapeutic, MBP8298, the key terms of which are reviewed below using the same format.

- Subject of the deal – MBP8298
- Therapeutic field – multiple sclerosis (MS)
- Current stage of development – three ongoing clinical trials are MAESTRO-01 (pivotal Phase 3 in secondary progressive MS patients in Canada and Europe), MAESTRO-03 (pivotal Phase 3 for secondary progressive MS patients in the U.S.) and MINDSET-01 (Phase 2 for relapsing-remitting MS patients in Europe)
- Territory – worldwide
- Exclusive – yes
- Term – not disclosed
- Financial terms
 - Initial payment – US\$87 million
 - Development and sales milestones – US\$410 million
 - Contributions by Lilly to global development – Lilly and BioMS will share in certain development costs
 - Royalties on all sales – escalating royalties on sales (no details)
- Clinical and regulatory responsibilities of the parties
 - Joint – Lilly and BioMS will collaborate on the development
 - BioMS only – will continue to oversee the current clinical trials
 - Lilly only – not disclosed

- Sales and marketing responsibilities – Lilly is responsible for all future activities
- Research and development - Lilly is responsible for all future activities
- Manufacturing – Lilly is responsible for all future activities

How do partnering deals get started?

Partnering discussions can get started in several ways and most smaller life sciences companies will use more than one of these in order to increase their chances.

- Pharmaceutical companies have a section of their websites which can be used to submit non-confidential information on technologies or products for review. Larger companies may have one submission process for products and technologies which are not yet in human studies and one for products in clinical development.
- All pharmaceutical companies have an internal R&D group from which there will be attendees at every major scientific and medical conference worldwide. The attendees will have objectives ranging from purely scientific education to competitive due diligence to looking for the next hot drug candidate. One problem which potentially arises is the NIH or “Not Invented Here” syndrome where scientists don’t want to place their internal projects in any danger by pointing out a drug candidate that may have superior potential.
- There are thirty to forty ‘speed-dating’ conferences every year. Thirty larger pharmaceutical and biotechnology companies each send four to fifteen licensing people to a conference. Five hundred smaller companies with products to license–out send one or two people and there are also the service companies selling their CRO or drug discovery services. Thirty minute meetings are arranged through an electronic request / accept / decline system.
- There are numerous conferences organized by investment banks in the U.S. and Europe. There were many representatives from pharmaceutical companies at the recent JP Morgan Healthcare conference in San Francisco.
- There are individuals and companies which will handle the licensing process on a contract basis and are usually compensated on a work fee, expense reimbursement and success fee basis.

What types of deals are being completed?

Appendix 5 contains a list of 56 selected licensing deals and collaborations by the ten largest pharmaceutical companies in 2007. The table below shows these deals classified primarily by the stage of development. Since these companies need late stage products for short term growth, there are a large number of Phase 3 deals. However, the largest number of deals is at the R&D stage.

Stage/Type of Development	Number of deals
Research & Development	18
Preclinical	2
Clinical (Phase unspecified)	3
Phase 1	4
Phase 2	6
Phase 3	12
Regulatory	1
Marketing	3
Diagnostics	7

Why do partnering deals get terminated?

Partnering deals usually get terminated for one of three reasons – economics, lack of efficacy or safety concerns.

- Economic assessments are made at critical points during the commercialization process. Termination of product development for economic reasons is common but there is rarely any extended discussion of the reasons by pharmaceutical companies. The smaller life sciences partners usually issue press releases stating that their pharmaceutical partner has chosen not to proceed with further development, they are not aware of any negative clinical results, all rights to the product are being returned and the financial aspects of the termination are being discussed. The reasons for the revised economic assessment of a product might include:

 - Increased size of pivotal clinical trials needed to show a statistically and clinically significant benefit;
 - Probably going to be third-in-class, with no superior characteristic, instead of first-in-class or best-in-class; or
 - Potential market size based on sales of competitive drugs is lower than expected.
- Many products fail to meet the primary clinical endpoint in pivotal Phase 2 or 3 clinical trials, which generally require the demonstration of a statistically significant clinical benefit versus placebo or the current standard of care. If there is not even a trend to a benefit, product development is usually terminated quickly. If there is a trend to a benefit, the analysis is more complicated and assesses many factors including whether the trial just needed to be larger, there was a flaw in the clinical design, there is a subgroup of patients that has a higher response rate or there was an unexpectedly high placebo response rate. If this assessment shows that there is a possibility that another trial might show a statistically significant clinical benefit, an economic assessment of risk and reward will be needed.

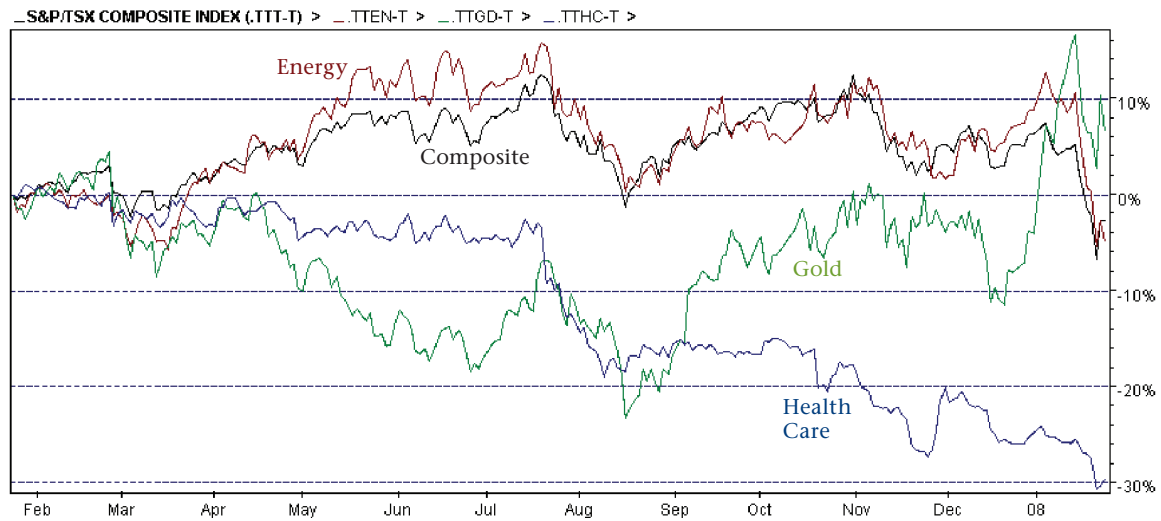
- The development of an increasing number of products is being terminated due to safety concerns. As a result of several very public product withdrawals, the FDA is now subjected to increased scrutiny from politicians, academics, class action lawyers, the media and the public. The safety hurdle for new products for mild to moderately severe diseases or medical conditions has been raised where there are currently approved and generally effective products. A new product is unlikely to be approved if it has any additional safety concerns over currently approved products in these therapeutic areas. For serious diseases where there are no effective treatments or where relapses or recurrences are common, there does not appear to be any change to the safety hurdle. A good example of this is Tysabri, which has remained on the market despite an increased risk of progressive multifocal leukoencephalopathy (PML), an opportunistic viral infection of the brain that usually leads to death or severe disability. Tysabri is approved as a monotherapy for the treatment of patients with relapsing forms of MS (generally recommended for patients who have had an inadequate response to, or are unable to tolerate, alternate MS therapies) and inducing and maintaining clinical response and remission in adult patients with moderately to severely active Crohn's disease (CD) with evidence of inflammation who have had an inadequate response to, or are unable to tolerate conventional CD therapies and inhibitors of TNF- α .

General Stock Market Performance

How has the broad stock market performed?

North American capital markets continued to experience volatility and generally negative trends during the fourth quarter as a result of the problems in the U.S. sub-prime mortgage and broader asset-backed commercial paper markets, and fears of a U.S. recession. The S&P/TSX Composite Index closed only marginally lower on a quarter over quarter basis at the end of the fourth quarter but this index and markets in general have been generally lower and extremely volatile to start 2008.

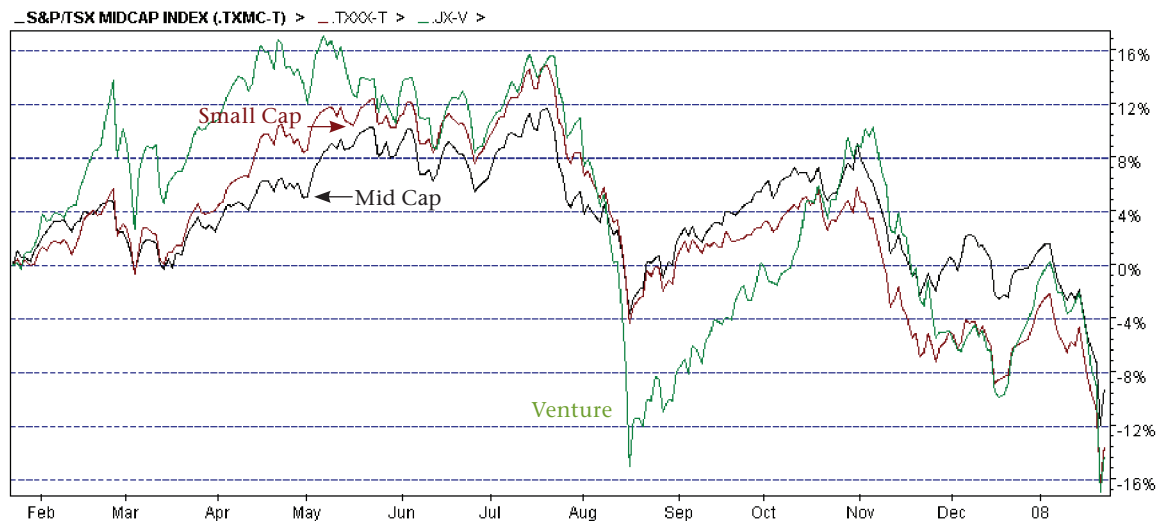
Closing Prices	S&P/TSX Composite Index	S&P/TSX Capped Energy Index	S&P/TSX Capped Gold Index	S&P/TSX Capped Health Care Index
29/09/2006	11,761	307.3	282.6	45.99
29/12/2006	12,908	324.6	325.4	52.72
30/03/2007	13,166	325.9	305.8	50.81
29/06/2007	13,907	356.7	268.0	50.06
28/09/2007	14,099	346.1	304.9	43.73
31/12/2007	13,833	350.2	310.0	39.41
Q4 change	-1.9%	+1.2%	+1.7%	-9.9%
12-Month Change	+7.2%	+7.9%	-4.7%	-25.3%



How have the small-cap, mid-cap and higher risk sectors performed?

Most of the Canadian life sciences companies listed on the TSX are small or mid-cap stocks. The chart below shows the performance of the TSX/S&P Capped MidCap and SmallCap indices during the last year. Although the market bounce continued into October, both indices have subsequently declined dramatically.

Investors in the life sciences companies that do not have approved products, revenues or earnings are generally willing to tolerate higher risk than the general market, as are investors in the junior natural resources companies. The best proxy for junior natural resources companies is the performance of the TSX/S&P Venture index, for which the one-year chart below shows that it has generally followed the same pattern as the TSX/S&P Capped MidCap and SmallCap indices.



The source for the data used in the preparation of all of the charts in this report is TSXconnect®, a service offered by the TSX Group in collaboration with Thomson Financial.

Life Sciences Industry Performance

The S&P/TSX Capped Health Care Index is now composed of only five companies – Axcan, Biovail, Cardiome, CML and MDS – since Angiotech and QLT have recently been dropped. Four of the five companies have revenues and are profitable, and these companies would be widely held by fund managers. However, this index is not representative of the broader life sciences industry which is dominated by companies developing novel therapeutics. Axcan will be dropped from this index before our next report as it is being acquired and this index will be even less representative of the sector.

The Canadian Life Sciences Phase 3 Therapeutics Portfolio is a group of companies with products in clinical development that range from being ready for the start of Phase 3 trials to having obtained regulatory approval but have yet to be launched in the U.S. market. ViRexx will be removed from the list in 2008 after the December 2007 announcement of the clinical failure of OvaRex MAb and termination of all development by its partner United Therapeutics. We have added Migenix, formerly Micrologix, which partnered Omigard™ with Cadence Pharmaceuticals, which is running a Phase 3 trial.

Two other companies in this portfolio made substantial announcements in December 2007. BioMS signed a global licensing and development agreement with Eli Lilly for its multiple sclerosis therapeutic, MBP8298, which included an upfront payment of \$87 million, as well as potential development and sales milestones up to \$410 million and escalating royalties on sales if MBP8298 is successfully commercialized. On December 11th, the Cardiovascular and Renal Drugs Advisory Committee of the U.S. Food and Drug Administration (FDA) recommended by a 6 to 2 vote that the FDA approve Cardiome's KYNAPID™, the intravenous formulation of vernakalant hydrochloride, an investigational new drug for rapid conversion of acute atrial fibrillation.

Canadian Life Sciences Phase 3 Therapeutics Portfolio

Company	Share Prices					Change (%)	
	29/12/06	30/03/07	29/06/07	28/09/07	31/12/07	3 Mos.	12 Mos.
AeternaZentaris	\$4.72	\$4.37	\$3.67	\$2.60	\$1.52	-42%	-68%
BioMS	\$3.29	\$3.64	\$2.47	\$2.39	\$3.89	+63%	+18%
Bradmer	\$3.60	\$3.51	\$3.70	\$2.10	\$1.11	-47%	-69%
Cardiome	\$13.02	\$11.75	\$9.76	\$9.35	\$8.91	-5%	-32%
Cipher	\$3.35	\$4.15	\$2.48	\$1.35	\$0.90	-33%	-73%
Isotechnika	\$1.66	\$1.36	\$1.72	\$1.28	\$1.03	-20%	-38%
Labopharm	\$6.82	\$6.59	\$3.04	\$1.65	\$1.03	-38%	-85%
Medicure	\$1.41	\$1.28	\$1.44	\$1.12	\$1.01	-10%	-28%
Migenix	\$0.54	\$0.72	\$0.42	\$0.50	\$0.36	-28%	-33%
Neurochem	\$25.01	\$17.30	\$6.90	\$2.75	\$2.20	-20%	-91%
Nuvo Research	\$0.62	\$0.36	\$0.19	\$0.12	\$0.10	-17%	-84%
Oncothyreon	\$8.04	\$8.04	\$6.66	\$5.64	\$2.20	-61%	-73%
Theratechnologies	\$7.10	\$8.34	\$11.72	\$10.86	\$10.88	0%	+53%
ViRexx	\$0.70	\$0.85	\$0.81	\$0.57	\$0.09	-84%	-87%
WEX Pharmaceuticals	\$0.20	\$0.30	\$0.26	\$0.40	\$0.38	-5%	+47%
YM BioSciences	\$3.31	\$1.85	\$1.91	\$1.53	\$1.32	-14%	-60%
Portfolio					Average Change	-23%	-44%

There are currently 20 public Canadian companies developing cancer therapeutics which have progressed at least to the point of starting formal preclinical toxicology studies. Most of these companies are developing only cancer therapeutics but a few also have non-cancer programs. In addition to monitoring percent changes in individual and group share prices (see Appendix 1), we created an un-weighted portfolio based on a \$10,000 investment in each company at the closing prices on December 29, 2006 (this is a fictional portfolio intended solely to illustrate the historical performance of this group and is not intended to illustrate or be an investment strategy). The performance to date in 2007 has been negative, with some slight overall gains in the first six months now becoming a significant loss for the year. The best performers in the fourth quarter and in 2007 overall (largest share price increases) were ARIUS and Tekmira, respectively. The portfolio will be revised for 2008 by dropping ViRexx due to the clinical failure in Phase 3 of its lead product OvaRex MAb.

Canadian Cancer Therapeutics Portfolio Values	29/12/2006	30/03/2007	29/06/2007	28/09/2007	31/12/2007
Phase 3	\$60,000	\$53,874	\$50,612	\$38,921	\$19,507
Phase 2	\$90,000	\$108,821	\$113,303	\$102,286	\$84,876
Preclinical / Phase 1	\$50,000	\$59,601	\$45,593	\$47,935	\$47,172
Total Portfolio	\$200,000	\$222,295	\$209,508	\$189,143	\$151,556

Events Profile

Another factor in the performance of the industry is the release of clinical data, especially end of Phase 2 or 3 clinical data, that impacts further development of the product. Although the results of Phase 2 and 3 clinical trials are not known until the end of the trials, we do know approximately when some of the data will be available. Some of the Phase 2 and 3 clinical trial events, FDA decisions or other events that could have an impact on the sector in the next year include the following.

- Allon – data in Q1 2008 from the Phase 2 trial of AL-108 in amnesic MCI (precursor to Alzheimer’s), data in mid-2008 from the Phase 2a trial of AL-208 in MCI post-CABG and data from a Phase 2 trial of AL-108 in schizophrenia-induced cognitive impairment in H2 2008
- Ambrilia – final Phase 3 data for the treatment of acromegaly with octreotide and, if positive, EU filing by mid-2008
- BioMS – 24-month safety and efficacy in the first 200 patients in the MAESTRO-01 Phase 3 trial is targeted for mid-2008 and results from the MINDSET-01 Phase 2 trial may be available in 2008
- Bioniche – receipt of full Canadian and U.S. licenses for its E. coli O157:H7 cattle vaccine
- Biosyntech – data from the U.S. pilot study expected in Q1 2008
- Bradmer – start enrolling glioblastoma patients in the Phase 3 trial of Neuradiab in Q1 2008
- Cardiome – FDA action on the NDA for Vernakalant I.V. (PDUFA date was January 19); Phase 2b data is expected for the oral version in Q1
- ConjuChem – start Phase 2 PC-DAC™: Exendix-4 study in Q1 with results expected in Q4 2008

- CryoCath – complete the randomization of patients in April 2008 for its STOP AF IDE trial of Arctic Front for the treatment of paroxysmal atrial fibrillation
- Fralex – interim analysis on first 100 patients in RELIEF trial expected in Q2 2008 which will determine final trial size
- Isotechnika – data from the Phase 2b kidney transplant trial expected in H1 2008
- Medicure – data from the Phase 3 MEND-CABG II trial is expected in Q1 2008
- Nuvo Research – expects to complete all of the clinical studies by Q4 2008 that will be needed in order to file a complete resubmission of its application for Pennsaid approval with the FDA in the first half of 2009
- Ondine – FDA clearance of the Periowave™ system is expected by mid-2008
- Protox Therapeutics – a Phase 2 trial of PRX302 in BPH is expected to commence in Q1 2008 (Phase 2 prostate cancer trial has already been started)
- SQI Diagnostics – data from external validation studies is expected in Q1 2008 which should lead to a 510(k) application to the FDA for its SQiDworks/QuantiSpot rheumatoid arthritis diagnostic system in H1 2008
- Thallion – Shigamabs Phase 2/3 pivotal trial is expected to start in H1 2008 in South America
- Theratechnologies – top line data from the second Phase 3 trial of TH-9507 for treatment of HIV lipodystrophy is expected in H1 2008
- YM BioSciences – EU Phase 3 results for the treatment of pediatric pontine glioma with nimotuzumab and, if positive, EMEA submission in 2008 by partner Oncoscience; data in H1 2008 from nimotuzumab/irinotecan Phase 2 colorectal cancer study

Initial Public Offerings (IPOs)

iCo Therapeutics is focused on the identification, development and commercialization of drug candidates that treat ocular indications through a development-only business model. They have in-licensed two product candidates that have the potential to treat sight-threatening conditions and now have an option on a third product. iCo had filed a preliminary prospectus dated May 1 for an IPO but this was withdrawn in August. On October 16, iCo announced (www.icotherapeutics.com) that it had entered into an arm's length agreement with Beanstalk Capital Ltd. (TSXV: BCL.P) whereby iCo would amalgamate with a wholly-owned subsidiary of Beanstalk. This transaction was completed in late December and iCo started trading on January 7 (TSXV: ICO).

Akela Pharma (TSX: AKL) had announced a U.S. public offering involving a NASDAQ listing in October but withdrew this financing in December due to market conditions. The company stated that it is considering other financing options and undertaking significant cost reduction measures.

Ultrasonix Medical is a Vancouver company that designs, develops, manufactures and distributes ultrasound imaging products and ultrasound based technology. Its main revenue stream is from the sale of the Sonix Series of ultrasound systems, which are cart-based, cost effective ultrasound systems providing high performance imaging. Its products serve a variety of clinical and research applications. The company had filed a preliminary prospectus dated October 31 for an IPO but the offering was withdrawn in early January.

Follow-on equity financings

Five follow-on equity financings were announced and completed in the fourth quarter for total proceeds of about \$53 million. The follow-on equity financing announced by Bixel Pharma in Q3 was changed to a non-equity financing and the equity financing announced by Chemokine in Q2 was withdrawn.

There were a number of equity financings completed in the fourth quarter that do not meet the criteria for inclusion in our list (bought deal, private placement, PIPE or similar equity financing over \$5 million).

- The exercise of warrants – Protox Therapeutics (TSX: PRX) received approximately \$7.6 million of a potential \$7.7 million from the exercise of warrants issued as a result of the two tranches of a private placement financing dated November 4 and 17, 2005. The exercise price of the warrants was \$0.65 and Protox's share price prior to expiry of the warrants ranged between about \$0.80 and \$1.07.
- Equity draw down facility – ProMetic Life Sciences (TSX: PLI) announced an as-needed equity draw down facility for up to \$15 million and issued a draw down notice for \$1 million upon closing of that transaction.
- Financing of less than \$5 million – Critical Outcome (TSXV: COT) completed a private placement for gross proceeds of \$4 million.
- On the edge of the life sciences industry – GLG Life Tech (TSX: GLG) closed a private placement in December for gross proceeds of \$34.5 million. GLG is involved in the growing, refining and production of stevia, a natural non-caloric sweetener, and in the distribution of nutritional products in China.

Follow-on non-equity financings

Two convertible debt financings were announced in the fourth quarter. ConjuChem completed a \$22 million offering of convertible unsecured subordinated debentures. Labopharm entered into an agreement for a US\$25 million debt financing with US-based Hercules Technology Growth Capital, Inc. (NASDAQ: HTGC) and drew down US\$15 million at closing of the transaction with the remaining US\$10 million available beginning May 15, 2008 through November 15, 2008.

Atrium Innovations (TSX: ATB) obtained additional financing of \$36.6 million from the Solidarity Fund QFL, in the form of a five-year credit facility provided as non-convertible subordinated debt. Atrium also has a revolving credit facility with borrowing capacity of US\$350 million (US\$265.3 million borrowed at September 30, 2007) to provide financial flexibility and fund acquisitions.

Bioniche announced plans to scale-up production of its E. coli 0157:H7 cattle vaccine at its Belleville, Ontario facility that is expected to cost about \$25 million. The company announced that it had received \$5 million as an interest-free loan from a federal government program, \$10 million as a repayable loan from a Government

of Ontario program and a \$5 million commercial loan from the Business Development Bank of Canada. The vaccine was recently deemed to be eligible for a conditional license by the U.S. Department of Agriculture and had previously been granted the equivalent of a conditional license by the Canadian Food Inspection Agency.

Mergers & Acquisitions

One of the Canadian industry's success stories, Axcan Pharma Inc. (TSX: AXP; NASDAQ: AXCA) will be lost upon completion of its acquisition for US\$23.35 per common share by TPG Capital, the global buyout group of TPG, a leading private investment firm. Axcan, founded in 1982, grew through licensing and acquisitions, the largest being the acquisition of Scandipharm in 1999. More recently, the largest potential growth would have come from the ITAX Phase 3 clinical studies studying itopride as a treatment for functional dyspepsia which, unfortunately, were unsuccessful.



Inflazyme Pharmaceuticals (NEX: IZP.H) announced a definitive agreement in January 2007 to merge with Z-Tech Medical, a private medical device company developing a rapid, patient friendly screening device for breast cancer. Inflazyme had previously announced in November 2006 that it had completed the sale of substantially all remaining R&D assets to Biolipox AB. This company is no stranger to M&A activity, having acquired GlycoDesign in 2003, which itself had acquired Vascular Therapeutics in 1999.

Chromos Molecular Systems (TSX: CHR) announced the sale of its ACE System technology to GSK in November 2007, which completed the sale of essentially all of its technology and product assets. Chromos had filed for creditor protection in April 2007 under the Bankruptcy and Insolvency Act, is now working to bring its regulatory filings up to date and is reviewing strategic options.

World Heart (TSX: WHT; NASDAQ: WHRT) announced in December a strategic alliance agreement, including financial assistance, with Abiomed (NASDAQ: ABMD), which had been considered one of its major competitors in the implantable VAD or vascular assist device market. World Heart was started in 1996 to develop an artificial heart but the commercial focus changed to devices intended to bridge the gap to a heart transplant. For the quarter ended September 30, 2007, the financial statements indicated cash and equivalents of US\$2.4 million, a quarterly loss of \$3.0 million and an accumulated deficit of US\$283 million.

Tm BioSciences was acquired by Luminex Corporation earlier in 2007 and became Luminex Molecular Diagnostics. One of their products, the xTAG™ RVP (Respiratory Viral Panel) recently received 510(k) clearance from the U.S. FDA during the fourth quarter.

Canadian performance in the context of the global biotechnology industry

A good proxy for the performance of the global biotechnology market is the NASDAQ Biotechnology Index (NBI), which is the basis for the iShares NASDAQ Biotechnology Index Fund (AMEX:IBB). This index had positive momentum to begin the fourth quarter but then declined to end 2007 at about the same level as it started the year.



The volatility of the sector continues. There were at least 22 public life sciences companies with price gains of 40% or more during the fourth quarter, including the Canadian companies Resverlogix (+65%) and BioMS (+63%). Four companies had share price increases over 100% - Questcor (+816%), Rigel (+169%), Coley (+155%) and OncoTherapy (+122%). Conversely, there were at least 24 public companies with price declines of 40% or more, including the Canadian companies Akela Pharma (-48%) and Angiotech (-44%).

During the fourth quarter, there were 5 medical technology, 1 biotechnology and 2 specialty pharma IPOs completed in the U.S. with gross proceeds of about US\$510 million. There were 7 life sciences IPOs completed in European markets with proceeds of about US\$325 million.

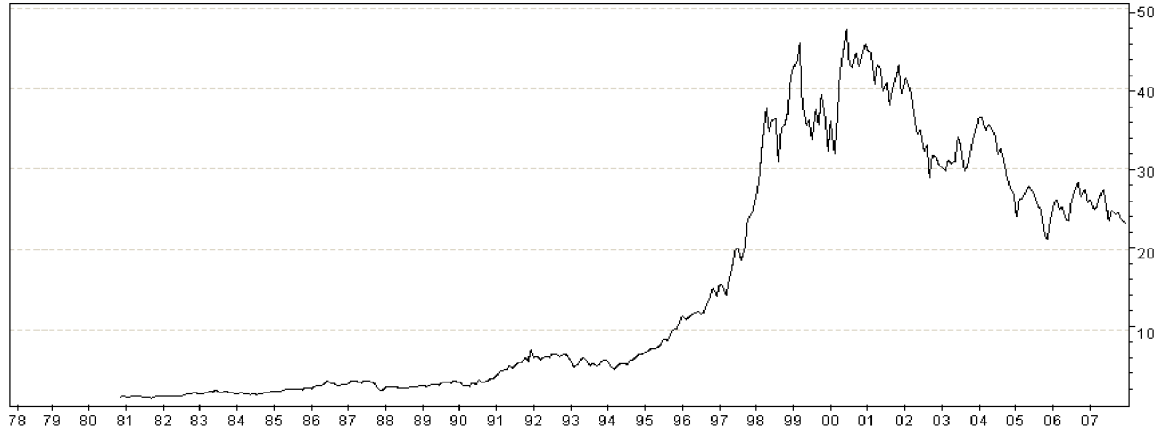
Outlook for the Industry

The top ten global pharmaceutical companies had total 2006 sales of US\$275 billion, approximately half of the global industry sales. Trends that affect these companies directly or indirectly affect all pharmaceutical and biotechnology companies. What is the impact on the smaller life sciences companies of the actions of these larger companies as they have disclosed in their press releases, presentations and on their web sites in 2007?

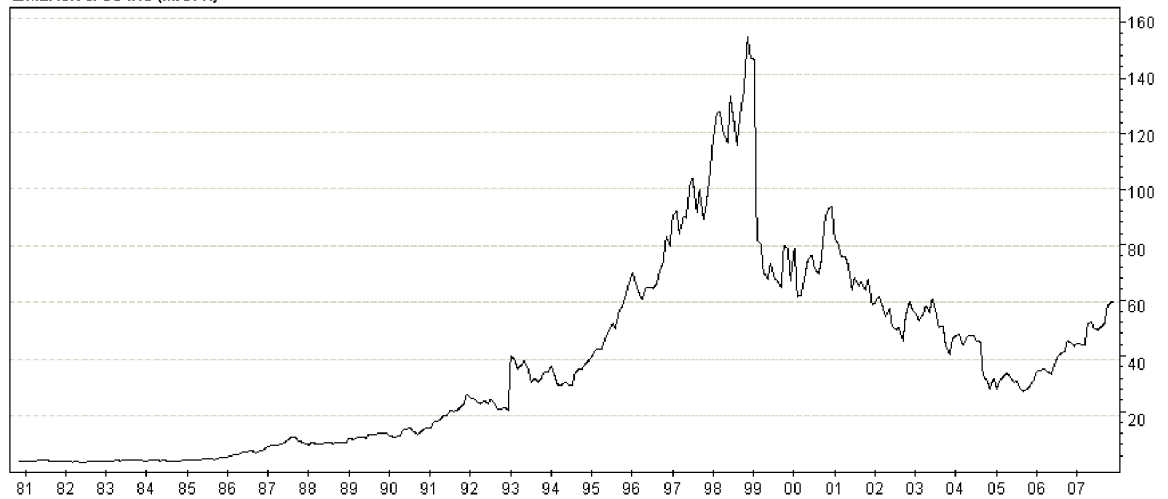
The pharmaceutical industry has had a great run that is illustrated nicely by the following charts for Pfizer (NYSE: PFE) and Merck (NYSE: MRK). The general trends are remarkably similar for these two and most other pharmaceutical companies up to a peak in early 1999. From that point to the present, the general trend has been down but there are substantial differences between companies on a short term basis. In the last two years

for example, the Pfizer share price has been flat, with volatility, whereas the Merck share price has doubled. Johnson & Johnson (NYSE: JNJ) is a diversified health care company, for which pharmaceutical sales were about 41% of total sales in 2007, which has seen slower, volatile growth since 1999.

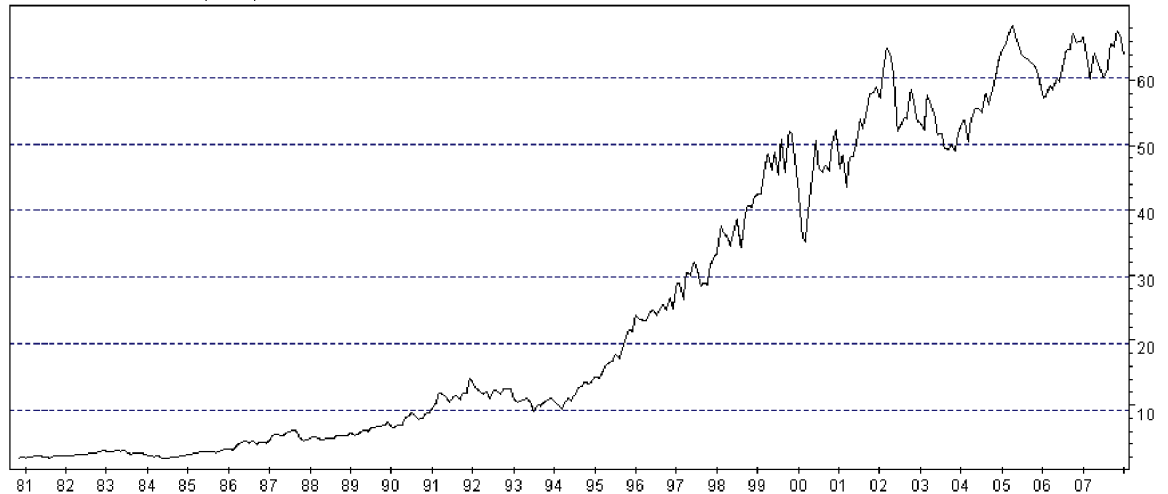
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— MERCK & CO INC (MRK-N) >



— JOHNSON & JOHNSON (JNJ-N) >



Are the pharmaceutical companies in financial trouble? The following table, based on the financial statements for the first 9 months of 2007 (6 months for Roche), shows that these companies have strong cash flow and cash positions. It is interesting to note that these ten companies in aggregate used almost \$55 billion to pay dividends and repurchase shares whereas they spent only about \$39 billion on research and development.

Company	Sales	R&D	Net cash flow from continuing operations	Dividends and Share Repurchase	Cash, cash equivalents & marketable securities
	(9 mos. to 30/09/2007)				(30/09/2007)
J&J	45138	5352	10925	6067	8320
Pfizer	35548	5829	9586	13515	22298
GlaxoSmithKline	33316	4545	9506	10252	6237
Sanofi-Aventis	28414	4390	-	4135	-
Novartis	28141	4583	6247	5908	14532
Roche	18490	2944	3932	2419	18841
AstraZeneca	21389	3730	4512	5935	3428
Merck	17954	3176	4651	3053	7392
Wyeth	16636	2374	4265	2263	12919
Eli Lilly	13443	2271	2925	1390	3566
TOTAL	258469	39194	56549	54937	97533

All in US\$ million

UK Pounds converted to US\$ at rate of 1.99

Sanofi-Aventis – Euros converted to US\$ at a rate of 1.344

Roche – 6 month results; Swiss francs converted to US\$ at a rate of 0.81

The share prices of many pharmaceutical companies have been down 50% or more from their historical high points and individual shareholders of these companies may wonder whether the stock is a buy, sell or hold based on the growth potential for its current and new products. If you scan the 2007 press releases for these companies, there are recurring themes, including the following.

- Increasing U.S. political scrutiny of the FDA and pharmaceutical companies
- Increased emphasis on biologics, especially products and platform technologies based on monoclonal antibodies
- New licensing and development agreements (see Appendix 5)
- Increased number of biomarker deals
- Successes and failures in the product pipelines, both internally developed and in-licensed
- Patent battles with generic companies
- Continuing rationalization of all operations, including manufacturing, sales and R&D
- Acquisitions (see Appendix 6) and divestments

There are also a variety of corporate strategies.

- Mergers followed by SG&A rationalization (historically popular strategy in this industry, the most recent example being the creation of Sanofi-Aventis)
- Selling lower growth businesses (e.g. Pfizer's sale of its consumer products division to Johnson & Johnson for \$16.6 billion in cash)
- Expanding lower risk businesses (e.g. the Sandoz division of Novartis, which is primarily generic products)
- Expanding a synergistic business (e.g. the Diagnostics business at Roche)
- Maintaining a diversified health care portfolio (e.g. Johnson & Johnson)

The worldwide pharmaceutical industry is healthy but does face hurdles to continued growth. Individual pharmaceutical companies face problems unique to their product portfolios and pipelines. However, the impact of all of these themes and strategies on the smaller life sciences companies is persistent and simple.

- The larger companies face growth problems primarily due to patent expiries for key products
- They cannot replace the lost sales entirely from their internal pipelines
- They will supplement their internal pipelines with appropriate acquisitions of companies and partnerships for new products and platform technologies

Appendix 1

Canadian Companies Developing Cancer Therapeutics

Company	Share Prices (C\$)					Price Changes (%)	
	29/12/06	30/03/07	29/06/07	28/09/07	31/12/07	3-Month	12-Month
Phase 3							
AeternaZentaris	\$4.72	\$4.37	\$3.67	\$2.60	\$1.52	-42%	-68%
Bioniche	\$1.50	\$1.07	\$1.04	\$1.17	\$0.90	-23%	-40%
Bradmer	\$3.60	\$3.51	\$3.70	\$2.10	\$1.00	-52%	-72%
Oncothyreon (Biomira)	\$9.84	\$8.04	\$6.66	\$5.64	\$2.20	-61%	-78%
ViRexx	\$0.70	\$0.85	\$0.81	\$0.57	\$0.09	-84%	-87%
YM BioSciences	\$3.31	\$1.85	\$1.91	\$1.53	\$1.32	-14%	-60%
Phase 2							
Adherex	\$0.39	\$0.63	\$0.57	\$0.38	\$0.26	-32%	-33%
Ambrilia	\$3.98	\$2.38	\$2.07	\$2.20	\$1.20	-45%	-70%
Helix BioPharma	\$1.85	\$1.65	\$1.75	\$1.52	\$2.20	45%	19%
Lorus Therapeutics	\$0.25	\$0.26	\$0.23	\$0.20	\$0.20	-3%	-22%
MethylGene	\$4.10	\$2.90	\$3.90	\$3.00	\$3.02	1%	-26%
Oncolytics Biotech	\$2.39	\$2.10	\$2.15	\$1.90	\$1.70	-11%	-29%
Prottox Therapeutics	\$0.50	\$0.87	\$1.17	\$0.95	\$0.75	-21%	50%
Tekmira	\$0.37	\$1.04	\$1.07	\$1.29	\$0.93	-28%	151%
Thallion	\$4.50	\$2.70	\$1.80	\$0.75	\$0.40	-47%	-91%
Pre-Clinical / Phase 1							
ARIUS	\$0.67	\$0.85	\$0.69	\$0.64	\$0.98	53%	46%
Chemokine	\$0.73	\$0.89	\$0.57	\$0.69	\$0.20	-71%	-73%
Nventa	\$0.16	\$0.20	\$0.15	\$0.11	\$0.08	-27%	-50%
PharmaGap	\$0.20	\$0.20	\$0.14	\$0.13	\$0.09	-35%	-58%
Quest Pharmatech	\$0.09	\$0.11	\$0.10	\$0.14	\$0.19	32%	106%
					Average	-23%	-24%

Appendix 2

2007 Canadian Life Sciences Financings over \$5 Million

COMPANY (by month financing announced)	GROSS AMOUNT (\$ M)	WARRANT COVERAGE (%)	IPO	NON- EQUITY (ALL / PART)	U.S. LISTING
January					
Adherex	25.0 (US)	50			X
Cardiome	96.6 (US)				X
Inex	16.0				
Resverlogix	17.0 (US)	25		X	
SemBioSys Genetics	15.9				
February					
Bioniche Life Sciences	17.5	50			
Isotechnika	40.4	50			
MethylGene	20.1				
OccuLogix	10.0 (US)	40			X
Oncolytics Biotech	13.8	50			X
Thallion	44.3	50			
Theratechnologies	57.8				
March					
Amorfix	10.0	50			
DiagnoCure	25.2				
April					
Adaltis	31.0	35			
Ambrilia	5.8				
Medical Ventures	7.7	50			
Monogen	12.4 (US)	50			
Noveko	23.0	50			
May					
Allon	15.0	50			
BioMS	44.3	50			
Bradmer	23.1	50			
Lorus Therapeutics	8.5			X	
Neurochem	80.0 (US)	Yes		X	X
Novadaq	30.0				
SQI Diagnostics	5.7	50			
Vasogen	16.0 (US)	75			X
June					
Nuvo Research	20.0	50			
Orbus Pharma	8.4	50			
Resverlogix	25.0 (US)	Yes		X	
July					
Medipattern	5.7				
Response Biomedical	12.0				
Transition Therapeutics	25.0				X
WEX Pharmaceuticals	20.1			X	

Appendix 2

2007 Canadian Life Sciences Financings over \$5 Million

August					
Medicure	16.0 (US)	30			X
Medicure	25.0 (US)			X	X
Nventa Biopharmaceuticals	8.6	50			
ProMetic Life Sciences	6.6				
September					
Ambrilia Biopharma	15.6	50			
IMRIS	40.0		X		
NovaBay Pharma. (refiled)	20.0 (US)		X		X
October					
SemBioSys	9.6	50			
Stem Cell Therapeutics	12.1	50			
November					
ConjuChem	22.0	25		X	
Microbix Biosystems	6.8	50			
Ondine Biopharma	7.0	50			
December					
Helix BioPharma	16.9				
Labopharm	15.0 (US)	Yes		X	X
January 2008					
Theratechnologies	29.8				

Appendix 3

Q4 2007 Canadian Life Sciences Financings – Historical Comparisons

	Q4 2006		Q3 2007		Q4 2007	
	Deals	Value	Deals	Value	Deals	Value
Initial Public Offerings	2	15.6	2	60.0	–	–
Follow-on Equity	17	413.6	7	90.3	5	52.4
Follow-on Non-Equity	2	60.4	2	46.4	2	37.0
M&A / Reorganization	–	–	–	–	–	–
Total	21	489.6	11	196.7	7	89.4

Deal values are in C\$ million. All announced deals in 2007 are included, including deals not closed, but excluding pulled offerings and revolving debt deals. US\$ converted for the three quarters at 1.16, 1.05 and 1.00, respectively.

Appendix 4

Completed Canadian Life Sciences Financings (2005-2007)

Quarter	2005		2006		2007		3-Year Ave	
	Number	Value	Number	Value	Number	Value	Number	Value
Q1	10	403.9	22	295.0	15	436.4	16	378.4
Q2	6	141.0	12	301.7	16	369.2	11	270.6
Q3	5	54.6	5	40.5	11	196.7	7	97.3
Q4	16	297.5	21	489.6	7	89.4	15	292.2
Total	37	897.0	60	1,126.8	42	1,091.7	46	1,038.5

Deal values are in C\$ million. Revolving debt deals are excluded.

Appendix 5

Selected Pharmaceutical Licensing Deals and Collaborations in 2007

AstraZeneca			
01/31	Argenta	R&D	Improved bronchodilators
02/22	BMS	Ph 3	Development of 2 BMS diabetes drugs
07/06	Silence	R&D	siRNA against respiratory targets
08/01	Verus	Clinical	Pediatric asthma programs purchased
Eli Lilly			
01/12	Nicholas Piramal	R&D	Joint drug development in several therapeutic areas
08/20	Hutchison MediPharma	R&D	Products for oncology and inflammation
10/02	GE Healthcare	Diagnostics	Diagnostic tools to assess cancer treatments
10/18	MacroGenics	Ph 3	Teplizumab for diabetes
12/17	Ambrx	R&D	Therapeutic MABs and proteins
12/17	BioMS	Ph 3	MBP8298 for multiple sclerosis
GlaxoSmithKline			
02/08	Fabre-Kramer	Ph 3	Gepirone ER for major depressive disorder
02/08	XenoPort	Ph 3	Gabapentin prodrug for restless leg syndrome
02/20	Roche	Marketing	OTC version of Xenical
07/27	Targacept	Ph 2	Novel therapeutics targeting neuronal nicotinic receptors
09/11	Sepracor	Marketing	Lunivia for markets outside North America and Japan
10/08	Anacor	R&D	Anti-infective compounds based on boron chemistry
10/10	Synta	Ph 3	Small molecule oxidative stress inducer for melanoma
10/23	Tolerx	Ph 2	Anti-CD3 MAb for auto-immune/inflammatory diseases
11/27	Merck	Regulatory	US OTC rights to Mevacor
12/03	Santarus	Marketing	ZEGERID Rx and OTC omeprazole products
12/10	OncoMed	Preclinical	Antibody therapeutics targeting cancer stem cells
12/10	Galapagos	R&D	Natural small molecule anti-infectives
12/19	Santaris	R&D	RNA antagonists against viral diseases
Johnson & Johnson			
05/07	Medtronic	Clinical	Stratification of cardiac arrhythmia patients
Merck			
03/06	Avalon	R&D	Library screening and drug optimization
03/26	Schering-Plough	Preclinical	Ezetinibe/atorvastatin combination product
06/27	SurModics	Ph 1	Ophthalmic drug delivery systems
07/12	ARIAD	Ph 3	AP23573 for sarcomas and other cancers
09/17	Celera	Diagnostics	Cancer biomarkers & pharmacogenomic tests
10/23	Asuragen	Diagnostics	Cancer biomarkers & pharmacogenomic tests
11/01	Dynavax	Ph 3	Hepatitis B vaccine
11/06	GTx	Ph 2	SARM drug development; Ostarine in Ph 2
11/19	Nicolas Piramal	R&D	Cancer drugs
12/18	Ambrx	R&D	Therapeutics based on FGF-21

Novartis			
04/25	Cytos	Ph 2	NicQb vaccine
07/02	Intercell	Phase 2	Opt-in rights to vaccine candidates (most advanced Ph2)
12/02	MorphoSys	R&D	Discover and optimize MAbs in a range of diseases
Pfizer			
01/08	PTC Therapeutics	R&D	Small molecules for gene expression modulation
01/09	Archemix	R&D	Aptamer therapeutics in 3 areas
01/10	Mirus	R&D	RNAi-delivery platforms
01/29	iCardiac	Diagnostics	ECG-based cardiac safety biomarkers
04/26	BMS	Ph 3	Collaboration to commercialize apixaban
11/29	Graffinity	R&D	Screening technology
12/05	Adolor	Ph 2	Two small molecules for the treatment of pain
12/27	Source MDx	Diagnostics	Biomarkers for inflammation and cancer
Roche			
01/04	Synosis	Ph 1	Synosis will acquire 5 drugs (4 in Ph 1) from Roche
04/11	Transgene	Ph 3	Therapeutic vaccines for HPV-mediated diseases
06/04	Siena	R&D	Drugs for neurodegenerative diseases
06/25	Toyama	Ph 1	Oral rheumatoid arthritis agent T-5224
07/09	Alnylam	R&D	RNAi therapeutics in 4 areas
08/20	Dako A/S	Diagnostics	EGFR pharmDx for NSCLC patient assessment
12/20	Compugen	Diagnostics	Biomarkers/genetic variations in RA
Sanofi-Aventis			
02/14	Acambis	Ph 3	ChimeriVax-JE (Japanese encephalitis vaccine)
03/28	Oxford Biomedica	Ph 3	Trovax cancer immunotherapeutic
06/06	Xceleron	Clinical	Assessing drug metabolism in early human studies
11/29	Regeneron	Ph 1	Fully-human therapeutic antibodies

Appendix 6

Selected Pharmaceutical Acquisitions in 2007

		Price	Key Product/Technology
AstraZeneca			
02/01	Arrow Therapeutics	\$150 M	Anti-infectives
04/22	MedImmune	\$14.6 B	RSV therapeutics, flu vaccine
Eli Lilly			
03/05	Hypnion		Insomnia and sleep disorders; HY10275 in Ph 2
05/25	Ivy Animal Health		Unidentified animal health products
GlaxoSmithKline			
12/19	Reliant	\$1.65 B	Lovaza
Johnson & Johnson			
01/01	Conor Medsystems	\$1.6 B	Drug-eluting stents (announced Nov 16)
Merck			
07/25	NovaCardia	\$350 M	KW-3902 in Ph 3 for congestive heart failure
Pfizer			
02/01	BioRexis		Diabetes drug candidates
11/16	Coley	\$164 M	Vaccine adjuvants, immunomodulatory drugs
12/18	CovX Research		Biological targets and therapies
Roche			
03/29	454 Life Sciences	\$140 M	High-throughput DNA sequencing
04/02	THP	\$57 M	Human monoclonal/polyclonal antibody platform
04/04	BioVeris	\$588 M	Diagnostics including electrochemiluminescence
06/25	Ventana Medical	\$3.4 B	Tissue-based diagnostics leader (not completed yet)
06/19	NimbleGen	\$273 M	High density microarrays
Wyeth			
04/03	Wyeth KK	-	Acquired remaining stake held by Takeda
10/05	Haptogen	-	Biopharmaceutical discovery technologies

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