

## Improved Quarter for Biotech on Capital Markets...and Financings and Partnering Deals Remain Red Hot

SAN FRANCISCO, January 2, 2007 – While biotech had a much improved final quarter of the year when compared to the Q3 06 metrics, it again played second fiddle to most other industrial sectors. The **Burrill Biotech Select Index** posted a modest gain of 0.6% in the fourth quarter but was outperformed by the NASDAQ, which posted a Q4 06 solid gain of 7%, and the Dow, which closed up 6.7%. Biotech's quarter performance might have been a lot better save for a challenging month of December, which saw the Burrill Biotech Select Index finish in negative territory (down 4%) while Dow continued to set new record highs before finishing up 2% and NASDAQ was off slightly at 0.68% for the month.

It was that kind of year for biotech's blue chip companies who were unable to sustain any kind of momentum in 2006 despite a positive general market for much of the year. Genentech and Amgen for example posted a 1% and 4% loss in share value respectively in December and finished the year down 12% and 13%.

“The **Burrill Biotech Select Index** closed the year 14% down and gave back over half the stellar 22% gain it achieved 2005, said G. Steven Burrill, CEO, Burrill & Company, a San Francisco based global leader in life sciences with principal activities in Venture Capital, Merchant Banking and Media.

“Although the Index finished in negative territory, the Amex Biotechnology Index, by contrast, closed the year up 10%,” noted Burrill. “We saw some stellar gains by individual large cap companies such as Gilead and Vertex Pharmaceuticals (up 24% and 35%, respectively since January) that were balanced out by companies that crashed and burned such as Neurocrine Biosciences (down 83%). Neurocrine is part of the Burrill Biotech Select Index and it contributed to the group's loss in value along with two other companies...Affymetrix, down 52%, and Onyx Pharmaceuticals Inc. down 62% for the year following a Phase III product trial stumble.”

However, it was a good year for shares of small companies in general, with the Russell 2000 posting a 17% gain in 2006. The **Burrill Mid-Cap Biotech Index** was up 10% and the **Burrill Small-Cap Biotech Index** performing even better, up 14% and these increases mirrored the Dow's yearly performance, closing up a respectable 16%, and Nasdaq up 9% for the year. Leading the way for the mid-caps was Illumina, Inc., which has been one of Wall Street's “darlings” all year with its stock value up a massive 179% since January, and New River Pharmaceuticals Inc. up 111%. For the small caps, it

was Sirna Therapeutics (up 329%), Auxilium Pharmaceuticals (up 167%) and Oscient Pharmaceuticals (up 123%).

“Despite the ebbs and flows for biotech on the capital markets, the industry collectively finished the year almost as it started, with a market cap at approximately \$490 billion,” continued Burrill. “Twelve months from now the industry will be sitting with a much higher market cap and, entering the new year, we believe that biotech is on track to live up to the predictions we have for it, and were detailed in our mid-December press release.”

#### **Genomics back in favor in Q4**

“Illumina led the resurgence in the technology, tools and genomics companies in 2006. Millennium Pharmaceuticals, Human Genome Sciences, Curagen and Celera Genomics all posted high double digit gains in their share prices for the year,” added Burrill.

“The transition to a more personalized medicine world is creating the need for molecular diagnostics, biomarkers, genotyping assays, etc. and so companies specializing in these areas have received positive investor attention,” he continued. “Sequenom, for example, a provider of fine mapping genotyping, methylation and gene expression analysis solutions, saw its share price rocket and closed the year up 588%.”

The **Burrill Genomics Index** surged 14% in Q4 06 and although this gain failed to bring the Index back into positive territory, closing the year down 13%, there is every reason to believe that companies in the genomics space will have a successful 2007 driven by the industry’s need for faster and more expansive genotyping technology to scan genes that will reveal clues to curing diseases.

#### **Investors still positive on biotech**

“While biotech’s performance in the capital markets waxed and waned throughout the year, at the mercy of prevailing macro-economic forces, concern for Iraq, elections/politics, and about healthcare cost increases, it was a big year for biotech/life sciences fund raising. Financings and partnering deals brought in a record \$47 billion for US companies with over \$27 billion through financings and \$20 billion in partnering capital.”

In total biotech raised \$6.2 billion in 4Q 06, picking up the pace again after Q3 06, which saw only \$2.4 billion collectively raised by the industry. Leading the way were follow-ons and debt financings. The \$1.7 billion debt financings in Q4 06 put an exclamation mark on what has been a remarkable year. With almost \$14 billion raised in 2006, the total debt capital generated by the industry represents what was raised in the whole of 2004 and 2005 combined.

**Selected Convertible Debt Offerings during Q4 06:**

Company	Amount (\$M)
Elan	615
Mannkind	523
Millennium Pharmaceuticals	250
United Therapeutics	250

Follow-ons were also on a tear in Q4 06 generating almost as much as the first three quarters of 2006 combined. For the year, the \$5.7 billion raised from follow-ons in 2006 was up 35% over the 2005 total. Leading the pack of over 20 deals in the quarter was Celgene, which grossed \$1,032 billion from a public offering of 20 million shares of its common stock at \$51.60 per share. The purpose of the offering was to partially meet the demand of index funds to purchase its common stock when the company was added to the S&P 500 Index. The company also stated it could use the cash for possible future licenses, strategic investments and acquisitions.

**Selected Secondaries during Q4 06:**

Company	Amount (\$M)
Celgene	1032
Arena Pharmaceuticals	175
Regeneron Pharmaceuticals	175
Alexion Pharmaceuticals	149
Ariad Pharmaceuticals	145
Advanced Magnetics	130
Alnylam Pharmaceuticals	101
Exelixis	84

For the past two years financings through PIPEs had been fairly consistent quarter-over-quarter but in Q4 06 the deals tapered off and the amount raised was over 56% lower than Q3 06. The total raised in 2006 was approximately 14% down from the 2005 total.

**Selected PIPEs during Q4 06:**

Company	Amount (\$M)
Memory Pharmaceuticals	32

Acorda Therapeutics	31
Cytogen	20

### **Positive quarter for biotech IPOs**

In the fourth quarter biotech IPO activity picked up with six deals getting out of the gate. The \$350 million raised from these transactions was up a whopping 614% over the Q3 06 total. In fact, the Q4 06 total was the most accumulated since Q2 04, when \$580 million was generated from IPOs. Financings from IPOs in 2006 were up 12% over the 2005 amount. Even more welcome news was the highly successful IPO debut of Affymax. Not only did the company price its opening day share price above its expected offering range late in December, but its share price jumped 36% in the final few trading days before the end of the month. The company's lead product, Hematide, is poised for Phase III trials. It is an erythropoiesis-stimulating agent that, if proven safe and effective, may improve the management of anemia and offer patients and physicians an alternative therapy to recombinant erythropoietin products currently on the market.

The performance of Affymax was a welcome end of year bonus to what has been a tough environment for biotech IPOs during the last two years. Although 19 biotech IPOs managing to get done in the US in 2006, two more than in 2005, almost all the offerings priced at the low end of their pricing ranges or considerably lower. However, by the end of the year only seven of the 2006 IPO graduates were under water and four closed with spectacular gains: Acorda Therapeutics, for example was up 164%. Its shares took off in September after it had announced that its Phase III trial on Fampridine-SR its multiple sclerosis treatment, improved patients' walking ability. Vanda Pharmaceuticals Inc.'s positive Phase III results for its experimental schizophrenia drug proved the fuel for its shares to soar, closing the year up 146%.

“The home runs by Acorda and Vanda and the improving performances of recent IPO graduates, who are averaging a positive 40% in share value, leads us to predict that over 30 IPOs, up 50% from the 2005/2006 levels, will be completed in the US during 2007,” commented Burrill. “Although, at 2006 year-end, 30 of the 71 biotech IPOs that completed since the window opened in 2003, were underwater, by the end of 4Q 07, most all of them will be trading above their offer price.”

## US IPOs during 2006:

Company	Ticker	Offer Range	IPO date	Issue Price	Price 12/29/06	% Change	Amount Raised (\$M)
Altus Pharmaceuticals	ALTU	\$14-16	Jan	\$15	\$18.85	25.67%	\$121
Iomai Corp.	IOMI	\$11-13	Jan	\$7	\$4.98	-28.86%	\$35
SGX Pharmaceuticals	SGXP	\$11-13	Jan	\$6	\$3.50	-41.67%	\$25
Acordia Therapeutics	ACOR	\$11-13	Feb	\$6	\$15.84	164.00%	\$36
Valera Pharmaceuticals	VLRX	\$10-12	Feb	\$9	\$8.10	-10.00%	\$35
Alexza Pharmaceuticals	ALXA	\$10-12	Mar	\$8	\$11.39	42.38%	\$44
Omrix BioPharmaceuticals	OMRI	\$15-17	Apr	\$10	\$30.26	202.60%	\$39
Targacept	TRGT	\$11-13	Apr	\$9	\$9.05	0.56%	\$45
Vanda Pharmaceuticals	VNDA	\$12-14	Apr	\$10	\$24.65	146.50%	\$58
BioMimetic Therapeutics	BMTI	\$11-13	May	\$8	\$13.19	64.88%	\$36.8
Novacea	NOVC	\$11-13	May	\$6.50	\$5.66	-12.92%	\$45
Replidyne	RDYN	\$14-16	Jun	\$10	\$5.74	-42.60%	\$45
Osiris Therapeutics	OSIR	\$11-13	Aug	\$11	\$25.32	130.18%	\$38.5
Achillon Pharmaceuticals	ACHN	\$14-16	Oct	\$11.50	\$16.11	40.09%	\$59.5
Cadence Pharmaceuticals	CADX	\$11-13	Oct	\$9	\$12.32	36.89%	\$54
Trubion Pharmaceuticals	TRBN	\$13-15	Oct	\$13	\$18.01	38.54%	\$52
Catalyst Pharmaceutical	CPRX	\$11-13	Nov	\$6	\$4.83	-19.50%	\$20
Emergent Biosolutions	EBS	\$14-16	Nov	\$12.50	\$11.16	-10.72%	\$57.8
Affymax	AFFY	\$22-24	Dec	\$25	\$34.04	36.16%	\$106
<b>AVERAGE (19 companies)</b>		<b>\$12-14</b>		<b>\$10.13</b>	<b>\$14.37</b>	<b>40.11%</b>	<b>\$50.14</b>

(The performance of biotech IPO companies and new graduates are tracked by Burrill & Company at [www.burrillandco.com](http://www.burrillandco.com))

## Venture Capital: Deal flow continues its healthy pace

The amount of venture capital generated by biotechs remained steady in Q4 06 when compared to the Q3 06 period. Although there were two fewer reported deals in the quarter, for the 45 that got done – the average deal size of \$22 million was \$2 million higher per investment. Year-over-year, the \$4.1 billion raised in 2006 was up 18% on the \$3.5 billion generated in 2005.

**Selected venture financings during Q4 06:**

Company	Amount (\$M)
Kalypsys	100
Solstice Neurosciences	85
Cerenis Therapeutics	53.5
Magellan Biosciences	50
Concert Pharmaceuticals	48.5
Elixir Pharma	46
Xenocor	45
Chiasma	44
Morphotek	40
VaxInnate	40
Neurotech Pharma	35
Orexigen Therapeutics	30
Achaogen	26
Xanthus Pharma	25
Tetraphase	25

San Diego based Kalypsys Inc. raised \$100 million in a Series C financing. It plans to use the proceeds to fund a broad range of preclinical and clinical programs in the areas of cardiovascular/metabolic diseases, pain/inflammation and oncology. Solstice Neurosciences, Inc., received a combined \$85 million in Series B equity funding and debt financing. The funds will support the company's ongoing initiatives related to movement disorders and treatment for cervical dystonia using Myobloc (Botulinum Toxin Type B) Injectable Solution.

**Deal making remains red hot...**

However, the bigger story – and one that has been unfolding for the past two years, is the amount the industry has generated through partnering. The \$20 billion raised is an all time record amount for partnering in biotech's 30+-year history, surpassing the then record setting \$17 billion total in 2005.

"Partnering deals set a new mark in biotech's comparatively short history and is a continuing testimony that big pharma's enthusiasm for doing deals with biotechs is not slowing down," said Burrill. Financings garnered in partnering deals during Q4 2006 were up a whopping 74% compared with Q3 06 and the amount raised fell just short of the record-setting \$7.7 billion that was recorded in the comparable Q4 05 period.

Grabbing the deal making headlines in the quarter was GlaxoSmithKline, signing a deal, worth potentially \$2.1 billion, with Genmab A/S to co-develop and commercialize HuMax- CD20 (ofatumumab), a fully human monoclonal antibody in late stage development for CD20 positive B-cell chronic lymphocytic leukemia and follicular non-Hodgkin's lymphoma and in Phase II for rheumatoid arthritis. Epix Pharmaceuticals also signed a lucrative worldwide multi-target strategic collaboration with GlaxoSmithKline to discover, develop and market novel medicines targeting four G-protein coupled receptors for the treatment of a variety of diseases, including Epix's 5-HT4 partial agonist program, PRX-03140, in early-stage clinical development for the treatment of Alzheimer's disease. Epix will receive total initial payments of \$35 million and be eligible to earn potential milestones of up to \$1.2 billion.

Roche was also active...Halozyme Therapeutics, Inc. and Roche entered into an agreement to apply Halozyme's Enhance drug delivery technology based on recombinant human hyaluronidase (rHuPH20) to Roche's biological therapeutic compounds. InterMune, Inc. closed an exclusive license agreement with Roche for the worldwide development and commercialization of InterMune's hepatitis C virus (HCV) protease inhibitor program. InterMune received an upfront payment of \$60 million and Roche will fund 67% of the development costs associated with ITMN-191, InterMune's lead HCV protease inhibitor drug candidate. Assuming the successful development and commercialization of ITMN-191 in the US and other countries, InterMune could receive up to \$470 million in milestones.

### **...and so were M&As**

Multi-billion dollar acquisitions were the order of the day for big pharma and large cap biotechs during the final quarter of the year. This was biotech's second active year in a row in terms of buyouts, as large biotechnology and pharmaceutical companies went beyond licensing agreements to fill out development and product pipelines.

“We haven't seen this many deals in any year between pharma/ biotech and biotech/biotech in the industry's history,” noted Burrill. “The huge premiums that big pharma is willing to pay for biotech innovation reflects their pipeline problems. Compared to the daunting \$1.2 - \$1.8 billion that is needed to bring a new drug to market and the long 10-15 years development cycle, paying big premiums, even for drugs that are not even in the clinic, is both a cheap and efficient way of reducing development costs and shortening commercialization timelines for the pharma acquirers,” said Burrill.”

Abbott broadened its portfolio of products for lipid management with a \$3.7 billion acquisition of specialty pharmaceutical company Kos Pharmaceuticals. Gilead Sciences Inc. bought Myogen for \$2.5 billion and Genentech, Inc. acquired Tanox Inc., a biotechnology company specializing in the discovery and development of biotherapeutics based on monoclonal antibody technology, for approximately \$919 million. The companies have been working together in collaboration with Novartis since 1996 to develop and commercialize Xolair®, an anti-IgE monoclonal antibody approved by the FDA in 2003 as a treatment for patients with moderate-to-severe allergic asthma. The deal also helped Genentech improve its pipeline in the areas of asthma, HIV, and age-related macular degeneration.

Illumina, Inc., was also in deal-making mood mode picking up gene sequencing platform company Solexa, Inc. in a stock-for-stock merger valued at around \$600 million.

“The M&A trends, that have been hot in 2005 and 2006 in biotech land, will not slow down with pharma still desperate to access pipeline and innovation,” commented Burrill. “Both big pharma and big biotech will be competing for companies with advanced product pipelines, as well as important land grabs of technology such as the \$1.1B acquisition of Sirna by Merck announced in November.

“There will also be no slow down in partnering deals and a significant portion of the \$20 billion that we project that will be raised in 2007 will be directed at gaining access to technology at an earlier stage in its development as companies strengthen their product indication franchises.”

**Selected Partnering Transactions during Q4 06:**

Biotech	Pharma/Biotech	Description	Est. Value (\$M)
Genmab A/S	GSK	HuMax- CD20 (ofatumumab)	2100
Epix Pharmaceuticals	GSK	Global development and commercialization of G-protein coupled receptors	1200
Halozyme Therapeutics	Roche	Enhance drug delivery technology	612
InterMune	Roche	Hepatitis C virus (HCV) protease inhibitor program	530
Idera Pharmaceuticals	Merck	Toll-like Receptor (TLR) agonists	455
AC Immune	Genentech	Anti-beta-amyloid antibodies for the potential treatment of Alzheimer's Disease and other human diseases	300
Altus Pharmaceuticals	Genentech	ALTU-238 a subcutaneously administered, once-per-week formulation of human growth hormone	280

**Selected M&A transactions announced during Q4 06:**

Acquirer	Acquired	Value (\$M)
Abbott	Kos Pharmaceuticals	3700
Eli Lilly	Icos	3200
Gilead	Myogen	2500
Merck	Sirna Therapeutics	1100
Genentech	Tanox	919
Illumina	Solexa	660
Genzyme	AnorMED	584

## Biotech Financings

	2005					2006				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Public										
IPO	\$289	\$77	\$286	\$168	\$819	\$252	\$269	\$49	\$350	\$920
Secondaries	\$1,218	\$422	\$1,337	\$1,217	\$4,194	\$1,522	\$1,091	\$419	\$2,734	\$5,766
PIPEs	\$599	\$386	\$858	\$533	\$2,376	\$1,042	\$295	\$480	\$210	\$2,027
Debt	\$1,227	\$1,583	\$2,508	\$247	\$5,565	\$5,421	\$6,447	\$373	\$1,737	\$13,978
Private										
VC	\$781	\$937	\$845	\$955	\$3,518	\$734	\$1,352	\$1,100	\$1,050	\$4,236
Other	\$128	\$286	\$176	\$524	\$1,114	\$115	\$98	\$90	\$122	\$425
Total	\$4,242	\$3,691	\$6,010	\$3,644	\$17,586	\$9,086	\$9,552	\$2,511	\$6,203	\$27,352
Partnering	\$2,151	\$4,093	\$3,279	\$7,745	\$17,268	\$6,436	\$1,809	\$4,218	\$7,333	\$19,796
Total	\$6,393	\$7,784	\$9,289	\$11,389	\$34,854	\$15,522	\$11,361	\$6,729	\$13,536	\$47,148

## **BIOTECH INDICES**

### **Burrill Biotech Select Index**

**(Month: - 3.8%; Quarter: 0.5%; Year: -13.4%)**

Although it has been a mixed year for biotech's elite companies on the capital markets, they certainly have been in "acquisitive" and partnering mode. Gilead acquired Myogen for \$2.5 billion and Genentech, Inc. acquired Tanox Inc. for approximately \$919 million. Although dropping 16% in share value in December, Vertex Pharmaceuticals led the gainers as far as yearly performance went, closing the year up 35%

### **Burrill Large Cap Biotech Index**

**(Month: -1.54%; Quarter: 1.8%; Year: -6.6%)**

With over 75% of the companies in the index posting single digit losses for December, it took the shine off what was turning out to be a promising final quarter for biotech's large cap companies. As a result, the Burrill Large Cap Biotech Index finished in negative territory for the month and for the year. However, this failed to dent what has been a stellar year for the biotech industry's senior biotech companies. Shares of Celgene Corp., for example soared in 2006 since a 2-for-1 stock split in February, The FDA approved once-banned Thalidomide to treat newly diagnosed multiple myeloma, and the company moved to the S&P 500 Index in December. Celgene's shares closed the year up 78% (33% for the quarter and 3% for December).

### **Burrill Mid Cap Biotech Index**

**(Month: -4%; Quarter: 5.7%; Year: 10.3%)**

Telik Inc. put a damper on what was turning out to be a very successful year for the mid caps. In December its experimental cancer drug failed to improve survival in patients with advanced lung cancer or in patients with ovarian cancer, sending its stock plunging 74%.

"By and large the fortunes of emerging biotech companies, with no earning, mounting losses and thin product pipelines are driven by binary events," said Burrill. "The wild swings in share value, on positive or negative clinical trials results suggest that these announcements are not well anticipated by the market. It is clear that there is a general lack of analytical enquiry about these exciting and emerging companies that leaves them vulnerable to success or failure on the roll of the clinical data or financial results dice."

The performances of companies in the group certainly typified the "ups and downs" of biotech in general. Helping to balance out the dramatic plunge in several companies share prices was Digene, which makes a DNA-based test to detect a virus that causes cervical cancer. The company's shares closed the

year up 64% on the strength of record sales and earnings on surging demand for its test.

<u>Index</u>	<u>12/31/04</u> <u>Value</u>	<u>12/30/05</u> <u>Value</u>	<u>9/29/06</u> <u>Value</u>	11/30/06 Value	12/29/06 Value	Change For Month	Change For Quarter	Change YTD
<b>Burrill Biotech Select Index</b>	287.54	351.39	302.72	316.59	303.96	-3.99%	0.41%	-13.50%
<b>Burrill LARGE-CAP Biotech Index</b>	368.59	454.56	417.00	431.18	424.56	-1.54%	1.81%	-6.60%
<b>Burrill MID-CAP Biotech Index</b>	162.53	155.59	162.31	178.65	171.55	-3.97%	5.69%	10.26%
<b>Burrill SMALL-CAP Biotech Index</b>	148.96	125.73	125.92	142.22	143.60	0.97%	14.04%	14.21%
<b>Burrill Genomics Index</b>	135.16	117.19	89.19	103.15	101.69	-1.42%	14.02%	-13.23%
<b>Burrill Biotech IPO Index</b>	78.11	65.08	58.08	68.50	63.33	-7.55%	9.04%	-2.69%
<b>Burrill Agbio Index</b>	111.02	113.15	115.17	120.81	124.52	3.07%	8.12%	10.05%
<b>Burrill Industrial Biotech Index</b>	124.23	124.97	139.70	146.30	150.85	3.11%	7.98%	20.71%
<b>Burrill Diagnostics Index</b>	105.30	105.61	106.15	123.51	122.79	-0.58%	15.68%	16.27%
<b>Burrill Nutraceuticals Index</b>	333.89	439.42	514.97	492.40	523.85	6.39%	1.72%	19.21%
<b>NASDAQ</b>	2175.44	2205.32	2258.43	2431.77	2415.29	-0.68%	6.95%	9.52%
<b>DJIA</b>	10783.01	10717.50	11679.07	12221.93	12463.15	1.97%	6.71%	16.29%
<b>Russell 2000</b>	651.57	673.22	725.59	786.12	787.66	0.20%	8.55%	17.00%

### **About Burrill & Company**

Founded in 1994, Burrill & Company is a San Francisco-based global leader in life sciences with principal activities in Venture Capital, Merchant Banking and Media. The company publishes an annual book on the "State of the Industry" – the 21st Edition, *Biotech 2007-Life Sciences: A Global Transformation*, will be available in March 2006. Burrill also publishes a range of biotechnology/life science newsletters and reports. Full details may be found at: <http://www.burrillandco.com/>

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