

Aastrom Biosciences, Inc. ASTM (NAS)

Last Close	Industry	Sector
1.83 USD	Biotechnology	Healthcare

Profile

Pricing data through 10 Feb 2012

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Aastrom Biosciences, Inc. was incorporated in 1989 and are a regenerative medicine company focused on the development of innovative cell therapies to repair or regenerate damaged or diseased tissues. It is a regenerative medicine company focused on the clinical development of autologous cell products (cells collected from a patient and returned to that same patient) for the repair or regeneration of multiple human tissues, based on proprietary Tissue Repair Cell (TRC) technology. Preclinical and clinical product development programs utilize patient-derived bone marrow stem and early progenitor cell populations, and are being investigated for their ability to aid in the regeneration of tissues such as cardiac, vascular, bone and neural. TRC-based products have been used in over 290 patients and are currently in various stages of development. Aastrom has developed a manufacturing system to produce human cells for clinical use, and all TRC-based products are produced using the firm's cell manufacturing system in centralized manufacturing facilities.

Aastrom Biosciences, Inc. **ASTM**

Sales USD Mil 0 **Mkt Cap USD Mil** 71 **Industry** Biotechnology **Sector** Healthcare

Aastrom Biosciences is developing process technologies and devices for cell therapy applications, including stem cell therapies and gene therapy. Stem cell therapy is used to restore blood and immune system function to cancer patients following chemotherapy or radiation therapy. The company is developing its Aastrom Cell Production System, which consists of a clinical cell culture system with disposable cassettes and reagents for use in stem cell therapy.

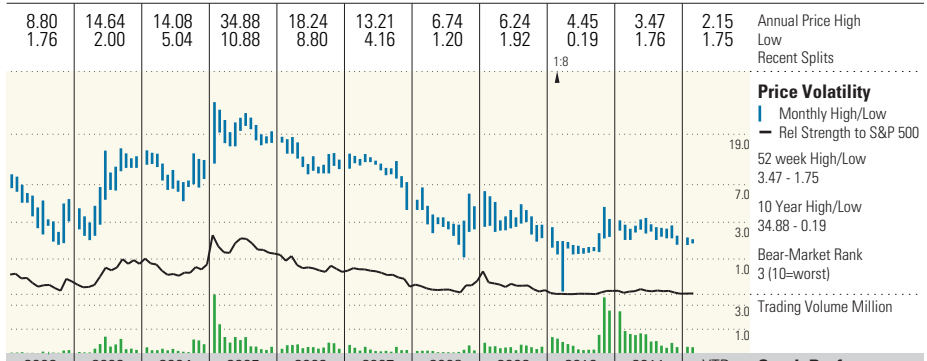
24 Frank Lloyd Wright Drive P.O. Box 376
Ann Arbor, MI 48106
Phone: 1 734 418-4400
Website: <http://www.aastrom.com>

Employees: 54

Morningstar Rating **Last Price** **Fair Value** **Uncertainty** **Economic Moat™** **Stewardship Grade**

1.83

per share prices in USD



Growth Rates	Compound Annual				
	1 Yr	3 Yr	5 Yr	10 Yr	
Revenue %	694.4	-25.1	-23.8	-12.5	
Operating Income %	—	—	—	—	
Earnings/Share %	—	—	—	—	
Dividends %	—	—	—	—	
Book Value/Share %	-98.5	-68.9	-55.3	-30.9	
Stock Total Return %	-28.8	-25.4	-31.0	-11.9	
+/- Industry	-53.5	-36.3	-34.3	-15.4	
+/- Market	-30.4	-42.9	-29.6	-13.4	

Profitability Analysis	Mkt			
	Current	5 Yr Avg	Ind	Mkt
Return on Equity %	—	—	8.5	22.6
Return on Assets %	-78.1	-56.7	4.5	9.5
Fixed Asset Turns	0.2	0.3	3.6	7.5
Inventory Turns	—	—	1.5	16.1
Revenue/Employee USD K	4.9	6.7*	—	1049.9
Gross Margin %	100.0	84.4	83.7	38.3
Operating Margin %	-5238.5	-4519.1	24.3	16.7
Net Margin %	—	-4966.8	10.3	11.2
Free Cash Flow/Rev %	—	—	14.8	0.1
R&D/Rev %	3900.0	30.8	—	9.7

Financial Position	USD Mil	
	09-10	09-11
Cash	31	12
Inventories	0	—
Receivables	0	0
Current Assets	32	13
Fixed Assets	1	1
Intangibles	—	—
Total Assets	33	14
Payables	—	—
Short-Term Debt	0	0
Current Liabilities	30	25
Long-Term Debt	0	0
Total Liabilities	30	25
Total Equity	3	-11

Valuation Analysis	Mkt			
	Current	5 Yr Avg	Ind	Mkt
Price/Earnings	—	—	55.0	14.5
Forward P/E	—	—	—	13.5
Price/Cash Flow	—	—	30.2	7.4
Price/Free Cash Flow	—	—	39.7	16.9
Dividend Yield %	—	—	0.2	2.0
Price/Book	—	—	4.7	2.0
Price/Sales	—	—	5.8	1.2
PEG Ratio	—	—	—	1.4

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	YTD	Stock Performance
-52.0	183.0	6.8	48.6	-41.7	-55.3	-9.1	-38.5	4.1	-28.9	0.6	Total Return %
-28.6	156.6	-2.2	45.6	-55.3	-58.8	29.4	-61.9	-8.7	-28.9	-6.2	+/- Market
-13.1	145.8	-5.8	37.2	-43.1	-50.9	-1.9	-45.0	0.2	-38.7	-11.9	+/- Industry
—	—	—	—	—	—	—	—	—	—	0.0	Dividend Yield %
23	95	131	217	147	73	67	54	99	70	71	Market Cap USD Mil

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Financials
1	1	1	1	1	1	1	1	0	0	0	Revenue USD Mil
98.9	77.3	-6.0	78.5	83.5	98.8	95.7	88.5	38.9	100.0	100.0	Gross Margin %
-7	-8	-10	-11	-12	-18	-19	-21	-16	-12	-14	Oper Income USD Mil
-731.1	-940.9	-1156.0	-820.0	-1364.8	-2061.6	-2821.7	-4080.8	-8983.3	-4648.0	-5238.5	Operating Margin %
-6	-8	-10	-10	-12	-16	-18	-20	-16	-19	-20	Net Income USD Mil
—	—	—	—	—	—	—	—	—	-0.65	-0.62	Earnings Per Share USD
—	—	—	—	—	—	—	—	—	—	—	Dividends USD
—	6	9	11	13	15	16	18	29	29	32	Shares Mil
1.41	1.34	2.07	2.07	2.40	1.97	1.01	0.66	0.08	-0.29	-0.29	Book Value Per Share USD
-6	-9	-9	-10	-11	-14	-15	-20	-14	-9	-9	Oper Cash Flow USD Mil
0	0	0	0	-1	-1	-1	0	0	0	0	Cap Spending USD Mil
-6	-9	-9	-10	-12	-14	-16	-20	-14	-10	-10	Free Cash Flow USD Mil

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Profitability
—	-67.7	-80.8	-69.2	-45.4	-41.8	-45.3	-68.2	-70.1	-58.1	-78.1	Return on Assets %
—	-73.2	-85.6	-71.9	-46.6	-43.7	-49.9	-78.1	-78.5	—	—	Return on Equity %
—	—	—	—	—	—	—	—	—	—	—	Net Margin %
—	0.07	0.07	0.09	0.03	0.02	0.02	0.02	0.01	0.01	0.01	Asset Turnover
—	1.1	1.1	1.0	1.0	1.1	1.2	1.1	1.1	11.2	11.2	Financial Leverage

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	09-11	Financial Health
11	11	11	17	32	41	27	22	16	2	-13	Working Capital USD Mil
—	—	—	—	—	—	1	1	0	0	0	Long-Term Debt USD Mil
11	11	12	18	33	42	28	23	17	3	-11	Total Equity USD Mil
—	—	—	—	—	—	0.04	0.03	0.02	0.01	0.00	Debt/Equity

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	TTM	Valuation
—	—	—	—	—	—	—	—	—	—	—	Price/Earnings
—	—	—	—	—	—	—	—	—	—	—	P/E vs. Market
21.6	62.5	97.1	—	—	113.6	—	—	—	—	—	Price/Sales
2.7	7.9	5.5	8.2	4.1	2.2	3.9	3.7	33.8	—	—	Price/Book
—	—	—	—	—	—	—	—	—	—	—	Price/Cash Flow

Quarterly Results						
Revenue	USD Mil	Sep 10	Mar 11	Jun 11	Sep 11	
Most Recent Period	—	0.0	0.0	0.0	0.0	
Prior Year Period	0.0	0.0	0.0	0.0	0.0	
Rev Growth %		Sep 10	Mar 11	Jun 11	Sep 11	
Most Recent Period	—	—	—	—	—	
Prior Year Period	-33.3	-100.0	-100.0	-100.0	-100.0	
Earnings Per Share	USD	Sep 10	Mar 11	Jun 11	Sep 11	
Most Recent Period	—	-0.13	-0.26	-0.05	—	
Prior Year Period	-0.24	-0.16	-0.17	-0.21	—	

Industry Peers by Market Cap				
	Mkt Cap USD Mil	Rev USD Mil	P/E	ROE%
Aastrom Biosciences,	71	0	—	—
Amgen Inc	59044	15450	16.7	15.8
Biocon Ltd.	—	—	—	—

Major Fund Holders		% of shares
		—
		—
		—

*3Yr Avg data is displayed in place of 5Yr Avg

TTM data based on rolling quarterly data if available; otherwise most recent annual data shown.

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Management & Ownership

Management Activity

Name	Position	Shares Held	Report Date*	InsiderActivity
R. DOUGLAS ARMSTRONG,PHD	Director	577,063	17 Jul 2006	-
NELSON M. SIMS	Director	225,000	17 Oct 2008	-
TIMOTHY M. MAYLEBEN	CEO/Director/President,Director	133,000	08 Aug 2011	-
PROF. RONALD M. CRESSWELL,D.SC.,F.R.S.E.	Director	40,000	11 Aug 2011	-
JANET M. HOCK,B.D.S.		37,136	12 May 2006	-
GERALD D. BRENNAN,JR		30,000	12 Nov 2007	-
GEORGE W. DUNBAR,JR	Director	30,000	12 Nov 2007	-
STEPHEN G. SUDOVAR	Director	26,900	14 Sep 2007	-

*Report date represents the date on which the owner's common shares held was audited.

Fund Ownership

Top Owners	Morningstar Rating	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
Vanguard Extended Market Idx Inv	QQQQ	0.87	0.00	125	30 Sep 2011
Vanguard US Total Market Shares (AU) ETF		0.77	0.00	0	30 Sep 2011
Vanguard Instl Ttl Stk Mkt Idx Instl Pls	QQQQ	0.33	0.00	11	30 Sep 2011
iShares Russell Microcap Index	Q	0.22	0.04	0	03 Feb 2012
Fidelity Spartan Extended Mkt Index Inv	QQQQ	0.24	0.00	0	31 Dec 2011
Concentrated Holders					
Valores Rioval SICAV		0.01	0.17	0	31 Oct 2011
Wilshire Micro-Cap ETF	Q	0.03	0.13	0	02 Feb 2012
iShares Russell Microcap Index	Q	0.22	0.04	0	03 Feb 2012
AQR Small Cap Momentum L		0.04	0.03	10	31 Dec 2011

Institutional Transactions

Top 5 Buyers	Morningstar Rating	% of Shares Held	% of Fund Assets	Shares Bought/Sold (k)	Portfolio Date
Vanguard Extended Market Idx Inv	QQQQ	0.87	0.00	125	30 Sep 2011
Vanguard Instl Ttl Stk Mkt Idx Instl Pls	QQQQ	0.33	0.00	11	30 Sep 2011
AQR Small Cap Momentum L		0.04	0.03	10	31 Dec 2011
Vanguard Asset Allocation Inv	Q	0.01	0.00	3	30 Sep 2011
Vanguard US Total Market Shares (AU) ETF		0.77	0.00	0	30 Sep 2011
Top 5 Sellers					
The Vanguard Total Stock Market Index	QQQQ	0.13	0.00	-5	30 Sep 2011

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Industry Focus: Biotechnology

Don't Bail on Biotech

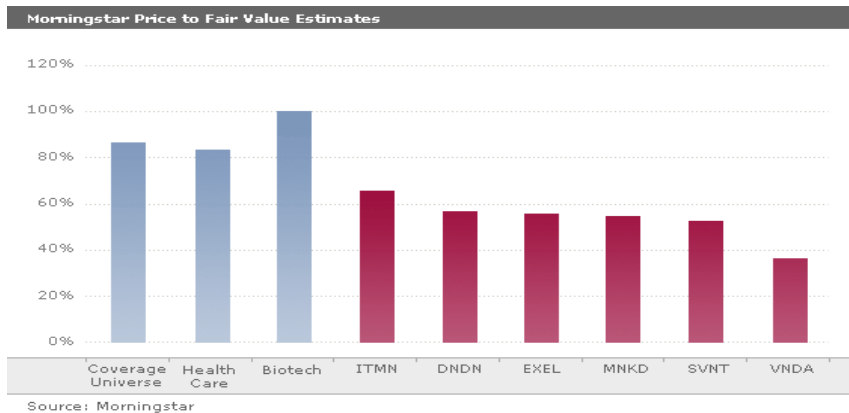
02 November 2011

Lauren Migliore
Stock Analyst

We see opportunity as fleeing investors trigger an irrational sell-off.

The biotechnology sector has been hit especially hard as investors flee high-risk assets amid recent market uncertainty. Compounding this heightened risk aversion is increased concern regarding product concentration for one-drug operations and the ability of development-stage biotechs to access equity markets in the wake of plummeting stock values. Furthermore, Dendreon's DNDN announcement that sales of prostate cancer drug Provenge will come in well under the market's initial expectations for the year caused a ripple effect throughout the sector as investors dumped shares of firms nearing the launch of other highly anticipated drugs. Investors also appear to be unloading shares of unprofitable biotechs with dwindling cash balances on the concern that volatile market conditions will limit firms' ability to raise capital. We think the market's indiscriminate sell-off of risky assets presents attractive risk/reward trade-offs for investors who can handle the ride. Specifically, market overreaction has pushed shares of Dendreon, InterMune ITMN, Exelixis EXEL, Savient Pharmaceuticals SVNT, Vanda Pharmaceuticals VNDA, and MannKind MNKD to

attractive levels, in our opinion. With the exception of MannKind (which enjoys the financial backing of billionaire entrepreneur Alfred Mann), all of these biotechs have at least a year's worth of cash on hand, which should provide them with more flexibility to wait and tap the equity markets under more favorable conditions. Dendreon: We think the market's overreaction to the firm's commercialization troubles presents a buying opportunity. In its second-quarter results, the company withdrew its sales guidance for Provenge (often referred to as the "world's first cancer vaccine"), causing shares to plummet 65% overnight. The drug is one of the most expensive cancer treatments on the market, and concern over its high price tag prompted the Centers for Medicare Medicaid Services to conduct a national coverage analysis for the drug during the last year. Although Dendreon received a favorable ruling in June, it seems the company has done a bad job educating physicians about Provenge's coverage status, and persistent reimbursement uncertainty has resulted in stagnant sales. Although we have significantly lowered our sales forecast for the company's sole marketed product, we think Provenge remains an important treatment option for prostate cancer patients. Provenge has demonstrated the ability to meaningfully improve survival without the toxic effects of chemotherapy. The novel immunotherapy has been shown to extend median survival by 4.1 months in clinical trials, putting it on par with some of the most efficacious cancer drugs, like Roche's RHHBY Avastin. The steep sell-off in Dendreon's shares is unmerited, in our opinion. InterMune: Dendreon's announcement that Provenge sales would come in well under the market's initial expectations caused a ripple effect throughout the biotech sector as investors dumped shares of firms nearing the launch of other highly anticipated drugs. With its stock price falling 25% since Dendreon's announcement, rare-disease-focused biotech InterMune has been no exception. Despite securing the blessing of a Food and Drug Administration advisory panel, InterMune received a complete response letter for lead drug Esbriet, which is for the treatment of idiopathic pulmonary fibrosis. However, the firm received marketing authorization for Esbriet in Europe at the end of February,



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and we expect the drug to contribute meaningfully to revenue next year. With the potential for orphan-drug exclusivity and a critical unmet need among patients, we think Esbriet can claim a hefty price tag and garner InterMune blockbuster sales once it eventually reaches the worldwide market. InterMune plans to conduct another Phase III trial to support domestic approval. We think the drug eventually will clinch FDA approval considering the lack of treatment options for the disease, its prior regulatory approval in Japan, and its demonstrated efficacy in one of two Phase III trials. Esbriet could hit the U.S. market by 2014, potentially propelling the firm to profitability that same year. We believe Esbriet has the potential to generate \$2 billion in peak sales once it makes it to market worldwide.

Exelixis: Exelixis' shares have been under pressure since Bristol-Myers Squibb (BMY) decided last year to pass on co-development rights to Exelixis' lead drug candidate cabozantinib. Bristol instead chose to focus on its own late-stage oncology pipeline rather than broaden the scope of cabozantinib's development plan. Exelixis shares have fallen more than 40% since this summer as investors shed high-risk assets and register their concern about the firm's lack of funding support for cabozantinib, especially following the firm's inability to secure a Special Protocol Assessment from the FDA. Yet promising data released after Bristol's decision reinforced our optimistic assessment of cabozantinib's potential, and we think retaining exclusive rights could turn out to be a net positive for the firm if it is able to partner cabozantinib under more attractive terms further down the development timeline. In a midstage randomized discontinuation trial, Exelixis reported that cabozantinib demonstrated broad activity across multiple tumor types. Most significantly, cabozantinib demonstrated a very high disease control rate and reduction in bone lesions in patients with metastatic castrate-resistant prostate cancer. Bone metastases are the primary cause of prostate cancer morbidity and mortality, and cabozantinib appears to have a differentiated mechanism of action through simultaneous effects on both soft tissue and bone metastases. This benefit is distinct from any other agent: Chemotherapy has a modest impact on survival but no

impact on bone disease, while bone-targeted therapy fights lesions but does not deter cancer progression. We expect Exelixis will conduct multiple regulatory filings for its lead drug. If successful, we think cabozantinib could bring in more than \$1 billion in sales for prostate cancer alone.

Savient Pharmaceuticals: Higher-than-expected costs, uncertainty around the firm's European plans, and a 500-point decline in the Dow sent shares of Savient tumbling following its report of second-quarter earnings. We have lowered our fair value estimate, but we still think the sell-off has created a buying opportunity. Our revised fair value has pushed back the firm's break-even point to 2014 due to higher selling, general, and administrative costs, lowered our United States peak sales for the firm's gout treatment Krystexxa to \$500 million from \$600 million, and lowered the chance of a European partnership to 25%. With no commercialization experience and Savient's attention focused elsewhere on selling its business, Krystexxa's launch was destined for a slow start. However, we do not think the slow launch necessarily signals a lack of demand for the treatment. Savient has faced a number of mostly temporary setbacks that have delayed Krystexxa's launch, but we expect them to dissipate during the next year. Savient is now fully staffed with its salesforce, managers, and marketing team for Krystexxa, and we think the firm's attentions are now solely focused on the drug.

Vanda Pharmaceuticals: A surprise approval following a nonapprovable letter from the FDA and a new commercialization deal with Novartis (NVS) propelled Vanda's stock price from \$1 per share to nearly \$15 per share in May 2009. However, since then, the stock has fallen dramatically as investors have registered their disappointment with Fanapt's slow start and the product concentration risk of Vanda overall. Although sales growth continues to track below our expectations, we believe Fanapt has not been given enough time to gain traction in the market. The drug demonstrated good efficacy and a favorable side-effect profile in trials, and we think it eventually will make it into the prescribing rotation of doctors accustomed to cycling schizophrenia patients through multiple drugs. In the near term, we expect

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prescription growth in the U.S. to be supplemented by Fanapt's expansion abroad. In addition, we think Fanapt's growth trajectory could be further enhanced by approval of a long-acting formulation of the drug. A long-acting injectable formulation has the potential to boost efficacy and compliance for patients and could represent an important new treatment option. Vanda also announced that it has expanded its clinical development program for remaining pipeline candidate tasimelteon. If trials prove successful, we think tasimelteon potentially could add to revenue as soon as 2013. The firm's existing valuation near cash levels implies minimal sales of Fanapt, limiting the potential downside for investors. We think the upside remains significant should Fanapt gain traction or Vanda's remaining pipeline drug sees approval. MannKind: MannKind is positioning lead product Afrezza as a differentiated diabetes therapy that offers superior safety and efficacy to injectable insulin. Despite these advantages, MannKind has received two complete response letters from the FDA. We think the agency's request for more inhaler data will delay approval by two years, hastening the firm's cash burn and probably causing investors to suffer more dilution before the company can reach profitability. Given the FDA's additional trial requirements, we think MannKind will have to wait until 2013 to see product revenue, and its dwindling cash balance probably will force it to raise additional capital within the next year. As a result, investors have sold off shares of MannKind on the concern that volatile market conditions will limit the firm's ability to raise capital to support Afrezza's potential commercialization. However, we already have incorporated a fairly dilutive equity raise within the next year into our valuation of the company, and we think current trading levels represent an overreaction to MannKind's liquidity constraints, especially when considering that the firm enjoys the financial backing of billionaire entrepreneur Alfred Mann (who has invested a large portion of his net worth in the company and has financed the lion's share of Afrezza's development costs to date). We continue to think the chances of Afrezza eventually receiving the green light are high, given the limited nature of the FDA's concerns. That said, MannKind

remains a speculative investment. With a rising debt load and only early-stage drugs remaining in its pipeline, shareholders are likely to be left empty-handed if MannKind is unable to meet agency demands for Afrezza.