

A.P. Pharma, Inc. APPA (NAS)

Last Close	Industry	Sector
0.23 USD	Drug Manufacturers	Healthcare - Specialty & Generic

Profile

Pricing data through 31 Mar 2011

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A.P. Pharma, Inc. is a specialty pharmaceutical company focused on the development of pharmaceutical products utilizing its proprietary Biochronomer™ polymer-based drug delivery system, a family of polymers known as poly(ortho esters). The company's focus is the development and commercialization of its lead product candidate, APF530, a Phase 3 candidate for the prevention of CINV. The company has made progress in developing bioerodible polymers that potentially represent an improvement over existing drug delivery systems. APF530 is its lead product candidate for the prevention of both acute and delayed chemotherapy-induced nausea and vomiting in patients undergoing both moderately and highly emetogenic chemotherapy for cancer. APF530 contains the anti-nausea drug granisetron formulated with the company's proprietary Biochronomer bioerodible drug delivery system. The company's second Biochronomer product candidate is APF112 for the treatment of post-surgical pain. APF112 incorporates the well-known analgesic mepivacaine in its Biochronomer system.

A.P. Pharma, Inc. APPA

Sales USD Mil 1 **Mkt Cap USD Mil** 9 **Industry** Drug **Sector** Healthcare
Manufacturers - Specialty & Generic

A.P. Pharma is a specialty pharmaceutical company focused on the development of prescription pharmaceuticals utilizing its proprietary polymer-based drug delivery systems. The company's primary focus is the development and commercialization of its bioerodible, injectable, and implantable systems under the trade name Biochronomer. Initial targeted areas of application for the company's drug delivery technology include pain management, inflammation, oncology, and ophthalmology applications.

123 Saginaw Drive
Redwood City, CA 94063
Phone: 1 650 366-2626
Website: <http://www.advancedpolymer.com>

Employees: 18

Growth Rates	Compound Annual				
	1 Yr	3 Yr	5 Yr	10 Yr	
Revenue %	3.2	46.7	-24.8	-9.1	
Operating Income %	—	—	—	—	
Earnings/Share %	—	—	—	—	
Dividends %	—	—	—	—	
Book Value/Share %	-80.7	-67.5	-49.3	-38.4	
Stock Total Return %	-77.5	-43.1	-50.8	-26.3	
+/- Industry	-91.6	-53.9	-52.7	-27.0	
+/- Market	-90.9	-43.2	-51.3	-27.0	

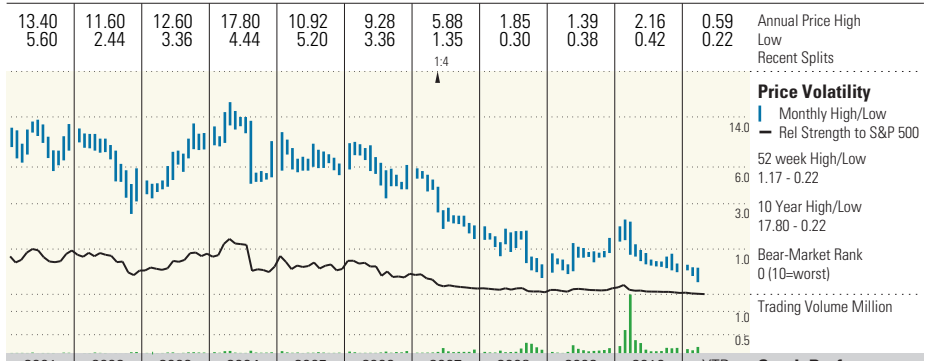
Profitability Analysis	Current				5 Yr Avg				Ind				Mkt			
	Return on Equity %	—	—	—	—	—	—	—	—	—	2.4	22.5	—	—	—	—
Return on Assets %	—	—	—	—	—	—	—	—	—	1.2	8.5	—	—	—	—	
Fixed Asset Turns	3.0	—	—	—	—	—	—	—	—	5.1	7.3	—	—	—	—	
Inventory Turns	—	—	—	—	—	—	—	—	—	2.5	14.6	—	—	—	—	
Revenue/Employee USD K	72.3	—	—	—	—	—	—	—	—	47.8*	943.3	—	—	—	—	
Gross Margin %	100.0	—	—	—	—	—	—	—	—	57.5	40.4	—	—	—	—	
Operating Margin %	-763.8	—	—	—	—	—	—	—	—	13.6	14.7	—	—	—	—	
Net Margin %	—	—	—	—	—	—	—	—	—	2.4	10.0	—	—	—	—	
Free Cash Flow/Rev %	—	—	—	—	—	—	—	—	—	15.5	0.1	—	—	—	—	
R&D/Rev %	558.5	—	—	—	—	—	—	—	—	—	9.8	—	—	—	—	

Financial Position	12-09 USD Mil		12-10 USD Mil	
	Cash	8	—	2
Inventories	—	—	—	—
Receivables	0	—	0	—
Current Assets	8	—	3	—
Fixed Assets	1	—	0	—
Intangibles	—	—	—	—
Total Assets	9	—	3	—
Payables	0	—	0	—
Short-Term Debt	—	—	—	—
Current Liabilities	2	—	2	—
Long-Term Debt	—	—	—	—
Total Liabilities	2	—	2	—
Total Equity	7	—	1	—

Valuation Analysis	Current				5 Yr Avg				Ind				Mkt			
	Price/Earnings	—	—	—	—	—	—	—	—	—	59.9	16.4	—	—	—	—
Forward P/E	—	—	—	—	—	—	—	—	—	—	13.5	—	—	—	—	
Price/Cash Flow	—	—	—	—	—	—	—	—	—	15.5	8.5	—	—	—	—	
Price/Free Cash Flow	—	—	—	—	—	—	—	—	—	18.9	17.9	—	—	—	—	
Dividend Yield %	—	—	—	—	—	—	—	—	—	2.2	1.7	—	—	—	—	
Price/Book	7.0	—	—	—	—	—	—	—	—	5.5	3.0	—	—	—	—	
Price/Sales	7.0	—	—	—	—	—	—	—	—	2.9	1.4	—	—	—	—	
PEG Ratio	—	—	—	—	—	—	—	—	—	—	1.8	—	—	—	—	

Morningstar Rating — **Last Price** 0.23 **Fair Value** — **Uncertainty** — **Economic Moat™** — **Stewardship Grade** —

per share prices in USD



2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	YTD	Stock Performance
17.9	-64.3	145.0	-32.6	-7.3	-10.5	-71.2	-73.4	200.0	-64.2	-49.0	Total Return %
30.9	-40.9	118.6	-41.6	-10.3	-24.1	-74.7	-34.9	176.6	-77.0	-54.4	+/- Market
22.4	-42.3	110.9	-15.8	-15.1	-1.0	-71.8	-50.7	165.5	-75.7	-60.1	+/- Industry
—	—	—	—	—	—	—	—	—	—	0.0	Dividend Yield %
57	20	51	41	39	35	49	13	50	18	9	Market Cap USD Mil

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Financials
4	6	5	5	5	—	0	0	1	1	1	Revenue USD Mil
90.0	92.3	—	—	—	—	—	100.0	100.0	100.0	100.0	Gross Margin %
-7	-5	-7	-9	-8	-19	-24	-23	-10	-10	-10	Oper Income USD Mil
-152.6	-82.8	-136.3	-172.6	-157.1	—	-5763.4	-6337.8	-812.7	-763.8	-763.8	Operating Margin %
-3	-4	-4	-9	-8	5	-20	-23	-10	-7	-7	Net Income USD Mil

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Profitability
-0.48	-0.76	-0.84	-1.60	-1.32	0.84	-1.04	-0.75	-0.31	-0.19	-0.19	Return on Assets %
—	—	—	—	—	—	—	—	—	—	—	Return on Equity %
5	5	5	6	6	6	19	31	33	40	40	Net Margin %
3.78	3.02	2.18	2.26	0.98	1.90	0.96	0.25	0.17	0.03	0.03	Asset Turnover
-6	-5	-7	-8	-8	9	-17	-24	-11	-5	-5	Financial Leverage
0	0	0	0	0	0	0	0	0	0	0	Working Capital USD Mil
-7	-6	-7	-8	-8	9	-18	-25	-11	-6	-6	Long-Term Debt USD Mil

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Financial Health
-9.9	-18.3	-28.2	-61.1	-63.2	40.2	-74.4	-94.9	-96.7	—	—	Total Equity USD Mil
-12.5	-21.8	-32.6	-72.6	-80.7	57.7	-97.1	—	—	—	—	Debt/Equity
-57.2	-64.9	-89.9	—	—	—	—	—	—	—	—	Price/Earnings
0.17	0.28	0.31	0.36	0.41	—	0.02	0.02	0.12	0.22	0.22	P/E vs. Market
1.2	1.1	1.2	1.2	1.5	1.4	1.3	1.6	1.3	2.2	2.2	Price/Sales
18	14	9	13	5	12	30	8	6	1	1	Price/Book
—	—	—	—	—	—	—	—	—	—	—	Price/Cash Flow
19	15	11	14	6	12	29	8	7	1	1	—
—	—	—	—	—	—	—	—	—	—	—	—

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TTM	Valuation
—	—	—	—	—	6.2	—	—	—	—	—	Price/Earnings
—	—	—	—	—	—	—	—	—	—	—	P/E vs. Market
—	—	—	—	—	—	—	—	—	—	—	Price/Sales
12.9	3.5	10.4	7.0	7.1	—	74.1	35.1	32.6	13.8	7.0	Price/Book
3.0	1.3	4.5	2.9	6.2	2.9	1.6	1.7	7.4	13.8	7.0	Price/Cash Flow
—	—	—	—	—	3.8	—	—	—	—	—	—

Quarterly Results							Industry Peers by Market Cap				
Revenue	USD Mil	Mar 10	Jun 10	Sep 10	Dec 10	Mkt Cap USD Mil	Rev USD Mil	P/E	ROE%		
Most Recent Period	—	0.2	0.5	0.3	0.2	A.P. Pharma, Inc.	9	1	—	—	
Prior Year Period	—	0.0	0.0	1.1	0.1	Dr. Reddy Laboratori	—	—	—	—	
Rev Growth %	—	—	—	—	—	Dr. Reddy Laboratori	—	—	—	—	
Most Recent Period	—	—	—	-68.8	50.0	—	—	—	—	—	
Prior Year Period	—	-92.3	-93.3	—	500.0	—	—	—	—	—	
Earnings Per Share USD	—	—	—	—	—	—	—	—	—	—	
Most Recent Period	—	-0.01	-0.09	-0.04	-0.04	—	—	—	—	—	
Prior Year Period	—	-0.10	-0.13	-0.04	-0.05	—	—	—	—	—	

Major Fund Holders						% of shares	
Legg Mason ClearBridge Aggressive Gr A	—	—	—	—	—	—	0.34
Fidelity Spartan Extended Mkt Index Inv	—	—	—	—	—	—	0.19
Vanguard Extended Market Idx Inv	—	—	—	—	—	—	0.12

*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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0.23 USD	Drug Manufacturers Healthcare - Specialty & Generic	

Management & Ownership

Management Activity

Name	Position	Shares Held	Report Date*	InsiderActivity
GREGORY H. TURNBULL	Director	245,092	20 May 2010	-
DR. PAUL GODDARD,PHD	Director	214,683	24 Oct 2000	-
TOBY ROSENBLATT	Director	210,234	20 May 2010	-
DR. ROBERT L. ZERBE,M. D.	Director	202,072	20 May 2010	-
KEVIN C. TANG	Director	138,841	20 May 2010	-
STEPHEN R. DAVIS	Director	95,891	16 Feb 2011	-

*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
Legg Mason ClearBridge Aggressive Gr A	QQ	0.34	0.00	0	31 Dec 2010
Fidelity Spartan Extended Mkt Index Inv	QQQ	0.19	0.00	0	31 Jan 2011
Vanguard Extended Market Idx Inv	QQQ	0.17	0.00	19	31 Dec 2010
SPDR Dow Jones Total Market	QQQQ	0.05	0.00	0	25 Mar 2011
Scotia Nasdaq Index	QQQ	0.00	0.00	0	31 Jan 2011

Concentrated Holders

Vanguard Extended Market Idx Inv	QQQ	0.17	0.00	19	31 Dec 2010
SPDR Dow Jones Total Market	QQQQ	0.05	0.00	0	25 Mar 2011
Scotia Nasdaq Index	QQQ	0.00	0.00	0	31 Jan 2011
Legg Mason ClearBridge Aggressive Gr A	QQ	0.34	0.00	0	31 Dec 2010

Institutional Transactions

Top 5 Buyers	Morningstar Rating	% of Shares Held	% of Fund Assets	Shares Bought/ Sold (k)	Portfolio Date
Vanguard Extended Market Idx Inv	QQQ	0.17	0.00	19	31 Dec 2010
Scotia Nasdaq Index	QQQ	0.00	0.00	0	31 Jan 2011

Top 5 Sellers

NA	NA	NA	NA	NA	NA
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0.23 USD	Drug Manufacturers	Healthcare
	- Specialty & Generic	

Industry Focus: Drug Manufacturers

Damien Conover, CFA
Associate Director

New diabetes drugs offer blockbuster potential for drug companies.

The Next Wave of Blockbuster Diabetes Drugs 10 September 2010

Outlook for the Diabetes Market

Diabetes is emerging as one of the most serious global health burdens of the 21st century. The number of people affected by diabetes worldwide is expected to grow from 246 million today to 380 million by 2025 according to the International Diabetes Federation.

The disease stems primarily from the growing prevalence of Type II diabetes due to an increasingly obese and sedentary global population. As a result, we project the diabetes market, excluding insulin, will grow to over \$55 billion by 2019 based on a 5%-plus compound annual growth rate despite the genericization of the thiazolidinediones class.

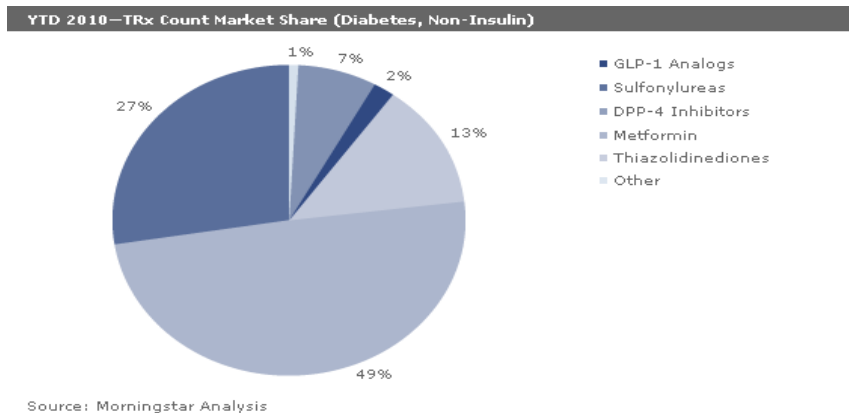
This lucrative market has attracted new interest from drug firms, giving rise to an influx of new diabetes therapies. The emerging new diabetes drugs offer drug companies an opportunity to replace key blockbuster drugs losing patent protection over the next few years. As these new diabetes drugs potentially develop into blockbusters, we expect the

valuations of drug companies will improve.

U.S. Market Forecast for Non-Insulin Diabetes Treatments

Metformin, sulfonylureas, and TZDs largely control the prescription market share of non-insulin diabetes treatments. We expect both sulfonylureas and TZDs will lose market share to newer drugs and project annual prescription declines of 2% and 10%, respectively, over the next 10 years. We expect the Avandia cardiovascular concerns will weigh on the entire TZD class, driving our projected rapid declines in prescription volume. By 2013, all branded TZDs will have lost patent protection, which will also reduce the promotional voice behind the class. We expect metformin to largely maintain its market share and its status as a first-line therapy. In the figures below we depict the current U.S. prescription share breakdown of non-insulin diabetes treatments and our projections for 2019 prescription shares. In the figures, metformin combination therapies are classified separately from stand-alone metformin (e.g., Janumet is classified as a DPP-4 inhibitor).

From a share of dollars perspective, higher prices for branded drugs skew market share values. As a result, we expect the newer classes of drugs to control the lion's share of total U.S. non-insulin diabetes sales by 2019. We believe the DPP-4 inhibitors will benefit from a first-mover advantage against potential oral competitors in the SGLT-2 inhibitor class as well as more convenient dosing versus the injectable GLP-1 analogs. We think this will push the DPP-4 class to the top spot, with a market share of 35% by 2019. Also, we expect the improved dosing profile of GLP-1 analogs over the next few years will drive the class to a 13% share of the market by 2019. We anticipate the SGLT-2 inhibitors will gain 8% of the market by 2019 as new drugs in this class emerge over the next decade. We project the majority of these gains to come at the expense of



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Industry Focus: Drug Manufacturers

sulfonylureas and TZDs. In particular, the patent losses in the TZD class will greatly shrink its size due to pricing compression following generic competition.

Potential Blockbuster SGLT-2 Inhibitors

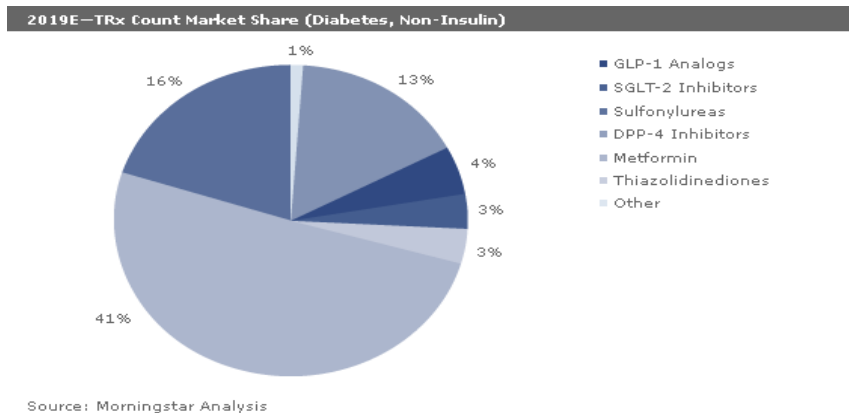
Marketed diabetes drugs can confer limited efficacy along with adverse side effects, and demand exists for new diabetes drugs according to Edward Chao of Nature Reviews. The major drug classes for diabetes have poor side effect profiles and often don't get patients to the correct level of glycemic control. While DPP-4 inhibitors offer a cleaner side-effect profile, these drugs haven't been tested over a long period of time and tend to offer limited reductions in HbA1c levels (the primary gauge of efficacy). This opens the door to a new therapeutic diabetes option called SGLT-2 inhibitors.

SGLT-2 Inhibitors: A Novel and Complementary Mechanism of Action

SGLT-2 inhibitors offer a new mechanism of action in treating diabetes. While metformin acts on the liver to inhibit glucose production, TZDs bind throughout the body to reduce insulin resistance, and sulfonylureas, GLP-1 analogs, and DPP-4 inhibitors all act on the pancreas, SGLT-2 inhibitors target the kidneys by inhibiting the re-absorption of glucose back into the body. As a result, more glucose exits

the body through urine, and blood sugar levels decrease as analyzed by Cyrus DeSouza of Nature Reviews. From an efficacy standpoint, SGLT-2 inhibitors appear less potent than metformin, sulfonylureas, and TZDs, similar to GLP-1 analogs, and more powerful than DPP-4 inhibitors. If the slightly stronger efficacy and weight loss associated with SGLT-2s is maintained in late-stage clinical trials, this drug class could emerge as superior to DPP-4 inhibitors. Since SGLT-2 inhibitors work differently than currently approved diabetes drugs, we expect the drug class will be used in combination with other treatments to get patients to optimal glycemic control. Working independently of the insulin system, SGLT-2 inhibitors could also be used in difficult-to-treat patients.

One potential headwind for the class is getting physicians more comfortable with patients having higher amounts of glucose in their urine, consistent with the SGLT-2 inhibitors' mechanism of action; historically, high glucose in the urine was an indicator of poor diabetes control. However, we think a strong safety and efficacy profile--and efforts to educate physicians on this novel class of drugs--should be enough to overcome this hurdle. A key to success for the SGLT-2 inhibitor class is its side-effect profile. The class appears very clean, with the exception of urinary and genital infections. Since the class works by increasing the excretion of glucose out of the body, increased levels of sugar in the urine create a breeding ground for bacteria. While the rates of infections have been high, most have been treatable with over-the-counter medicines. We believe that this minor side effect will only have a modest impact on usage and that the relatively clean side effect profile, weight loss potential, and oral dosing should position the drug class as a strong candidate for second-line treatment following metformin, at the expense of sulfonylureas.



Little Differentiation Among Phase III SGLT-2 Inhibitor Drugs

Within the SGLT-2 inhibitor class, about 10 compounds are in development. Bristol-Myers Squibb BMY and partner AstraZeneca AZN are furthest along with dapagliflozin.

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Industry Focus: Drug Manufacturers

We expect the drug will reach the market in late 2011 or early 2012, well ahead of most of the other competing SGLT-2 inhibitors. Johnson Johnson's JNJ canagliflozin could represent the second launch in the SGLT-2 inhibitor class. Currently, canagliflozin is in early Phase III studies, which should enroll more than 10,000 patients. Depending on how much cardiovascular data the regulatory agencies request, we believe the drug could reach the market as early as late 2013. While we don't see much differentiation between these leading SGLT-2 inhibitors, the first-mover advantage for Merck's Januvia over Bristol-Myers'/AstraZeneca's Onglyza in the DPP-4 class could bode well for dapagliflozin. Additionally, Astellas' ASP-1941 will likely reach the market after dapagliflozin and canagliflozin, as the drug is only in Phase III trials in Japan (Phase II in the U.S. and EU).

Market Projection for SGLT-2 Inhibitor Class

We estimate the probability of approval for dapagliflozin and canagliflozin at 65% and 50%, respectively. We believe the strong efficacy and largely clean side effect profile should bode well for the drugs. However, our assumptions are balanced by the FDA's increasingly risk-sensitive stance toward new diabetes drugs. In particular, while cardiovascular risk doesn't seem to be an issue with SGLT-2 inhibitors, the FDA may not be convinced without a very robust data set. Based on our projections, we believe SGLT-2 inhibitors represent a key group of new drugs that offer drug companies new blockbusters to help offset the major upcoming patent losses. As these new drugs reach the market, we expect the outlook along with the valuations of the drug companies will improve.

Lauren Migliore also contributed to this article.

For more of our analysis on the diabetes market and the companies poised to launch new drugs, please see the link below.

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Observer .

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