Emkay Research

2nd June 2008

Piramal Life Sciences Ltd

Company Update

'Stronger' Pipeline, Value beckoning

Not Rated

Price	Target Price
295	NA
Sensex	16,416

Piramal life science limited (PLSL) is being formed after the demerger of Piramal Healthcare Ltd's (PHL) innovative R&D business. PLSL which got listed on May 28, '08, mainly focuses to discover, develop and commercialize innovative drugs to address unmet medical needs to reduce the burden of disease.

PLSL's commenced its drug discovery research journey 10 years ago with the acquisition of Hoechst R&D centre but over the past five years, we have witnessed substantial ramp-up in its R&D efforts. We believe that these efforts have started yielding good results for the company as today it boasts one of the best innovation infrastructures in India. It has built world class drug discovery centre at Goregaon, Mumbai with an investment of over Rs1bn and facility spread over 200,000 square feet. Currently it has a competent team of over 309 scientists, out of which 72 are Phds. So far it has invested Rs3390mn on innovative R&D research. This has resulted one of the most interesting innovation pipelines in the industry with 13 molecules in its kitty out of which 7 molecules are in Phase I/ Phase II stages. Our first cut estimates suggest a value of Rs570/ share which is based on NPV of the R&D assets. We believe the current price do not reflect the potential value of its R&D pipeline. At CMP of Rs295, we believe the stock is available at significant discount to its NPV and can provide an upside of 197% from the current price. We do not have rating on the stock.

Stock Details

Sector	Healthcare
Reuters	PLSL.BO
Bloomberg	PLSL@IN
Equity Capital (Rs mn)	255
Face Value (Rs)	10
52 Week H/L (Rs)	NA
Market Cap (Rs bn/ USD mn)	8/178
Daily Avg Vol. (No of shares)	NA
Daily Avg Turnover (US$mn)	NA

Shareholding Pattern (%)

(21st Jan '08)	
Promoters	58.8
FII/NRI	19.1
Institutions	7.4
Private Corp.	5.6
Public	9.1

Business strategy of PLSL

PLSL's key focus areas are based on the following criteria:

- Significant unmet medical needs;
- Availability of scientifically validated therapeutic targets in well-understood biological pathways;
- Relatively fast, well-defined path to clinical development;
- Leverage strong in-house capabilities in:
  - Medicinal chemistry
  - Natural products chemistry
  - Biology
  - Animal pharmacology
- Leverage strong capability in early-phase development

PLSL's is mainly focusing on four therapeutic areas, like Oncology, Inflammation, Infectious Diseases & Diabetes.

PLSL has stated that it will take new chemical entities (NCEs) early discovery through Phase II clinical trials in India and Overseas and after that pursue one of the following two pathways:

a) Develop to Proof-of-Concept: Then, Out-license

Discovery >>Early Development (I & II) >>Out-license

b) Carry-to-Market

Discovery Early Development (I & II) >>Late Development (III) >>Launch

Whenever the program or product involves orphan drug status, niche indications, or accelerated clinical trials, PLSL will develop the compound through to launch. PLSL has decided to launch its oncology molecule P276 own its own.

Manoj Garg
Manoj.garg@emkayshare.com
+91 22 6612 1257 Extn.257

Partnering with global leaders

PLSL has already entered in-licensing agreement with the three partners, a) Eli Lilly b) Merck & c) Pierre Fabre Laboratories

As per agreement with Eli Lilly PLSL signed a drug development agreement to develop and commercialize a select group of Lilly's pre-clinical drug candidates spanning multiple therapeutic areas. As per agreement PLSL is responsible for design and execution of the global clinical development program up to end of Phase II and Eli Lilly will be responsible for Phase III, registration and launch worldwide (excluding India and certain South Asian countries)

PLSL will receive the following:

- Milestone payments on successful completion of Phase I, II and III, aggregating US$ 100 million
- Percentage royalty on global sales upon successful launch
- Exclusive marketing rights for India and certain neighboring countries

R&D Agreement with Merck & Co - Merck & PLSL entered into a research and development collaboration agreement to discover and develop new drugs for two new oncology targets provided by Merck. PLSL will be responsible for carrying out an integrated drug discovery program from hits to leads through pre-clinical candidate selection, followed by investigational new drug (IND)-enabling non-clinical studies and human clinical trials demonstrating proof-of-concept, primarily for Oncology. Merck will have an option to advance the most promising drug candidates into late stage clinical trials and to commercialize these drug candidates. PLSL will receive milestone payments on successful completion of Phase I, Phase II and III, aggregating US$175mn for each candidate plus percentage royalty on global sales upon successful launch.

R&D Agreement with Pierre Fabre Laboratories: In January 2008, PLSL entered into a collaboration agreement with Pierre Fabre for research in oncology. The Pierre Fabre Group will provide expertise in screening and research in oncology, while PLSL will make available its natural products base, which will lead to the pharmacological characterisation of new molecules.

Revenue from in-licensing start flowing from FY09E onwards, Out-licensing deal likely in FY10E

We believe that from FY09E onwards, PLSL will start generating revenues from its in-licensing deal. We expect the first installment of $10mn from Eli Lilly in this year itself. We also believe that company will start monetising its impressive R&D pipeline in next 18-24 months, which will lead to the re-rating of the company. We believe that the out-licensing deal at advanced stage will enhance the credential of the company and thus the value of the company as we have witnessed the same in Glenmark's case, where the intrinsic value of its R&D pipeline has increased multifold post out-licensing deals. Further we believe that the value creation will be higher in case of PLSL as the out-licensing deal may be stuck at a more advanced stage of development.

External funding

We believe, going forward, PLSL will likely look for financing from strategic or financial investor into the company in order to take care of increasing R&D expenses because of growing pipeline. We have analysed the costs required to develop its R&D assets (Rs8153mn) and its current cash position (Rs900mn ~ transferred from PHL). We believe that its cash balance is currently not enough to sustain operation for more than a year. We have considered an equity dilution of 20% @ Rs450/share to arrive at the fair value of its R&D assets.

NPV of R&D Pipeline

Molecule	Indication	Current Mkt. Size (US $mn)	Competing Products	Launch est	Peak sales est (US$ mn)	Est Peak sales year	Probability (%)	Own/ out-licensing	NPV (Rs mn)
P 276	Multiple Myeloma, Head and Neck, Malignant Melanoma	2700	Selicicib, SNS-032, PD-0332991, ZK-304709	2011	700	2018	30	own	11644
P1446	Multiple Myeloma, Head and Neck, Malignant Melanoma	2700	Selicicib, SNS-032, PD-0332991, ZK-304709	2013	1000	2019	10	Out-licen.	2509
NPB-001-05	Chronic Myeloid Leukamia Brain tumors, Renal	1600	VX-680, SGX-523 DX-52-1, 2-ME, PX-478,	2011	500	2017	20	Out-licen.	2486
Pxxx	cancer	1000	ENMD –1198, ENZ-2968	2013	500	2019	5	Out-licen.	566
Lead from Natural Products	Pancreatic cancer	1100 (Proj)	CEP-701, AVI -2221	2013	200	2019	5	Out-licen.	288
P979	RA, Psoriasis, Ankylosing spondylitis	7500	CC -7085, CC -4047	2013	1000	2019	5	Out-licen.	975
NPS31807	RA, Psoriasis, Ankylosing spondylitis	300	None	2011	100	2017	30	own	1722
P1539 pro drug	Pain	500-1000	NCX-4016	2013	300	2019	5	Out-licen.	343
P1736	Type II diabetes	4500	Rosiglitazone, Piaglitazone, Metformin	2015	1000	2022	10	Out-licen.	1461
PM 1811104	Treatment of drug resistant bacteria	500	LB-11058; S-4661; RWJ-416457; ACH –138055	2013	200	2019	10	Out-licen.	563
NPV of Eli Lilly deal									1215
NPV of Merck deal									1834
								Total NPV	**25607**

Source: Company, Emkay Research

Valuations

We have used risk adjusted DCF based methodology for valuing PLSL's pipeline, where we have assumed all molecules to be successful and captured the high failure risk by assigning the probability of success (from 5% to 30%) depending upon the stage in which the molecule is. We have valued the R&D portfolio in three steps

- NPV of R&D assets ex R&D cost
- R&D cost require to develop these assets
- Adjusting for external fund requirement either through equity dilution or debt

We value PLSL at Rs570/share. We believe that an out-licensing deal for its R&D products will act as a catalyst, which would lead to higher valuations of the company. Besides, the positive outcome of Phase II trials for P276 would add credence to the company's pipeline.

Valuation of R&D Assets	(Rs mn)
NPV of R&D pipeline	25607
R&D spend (NPV)	8153
Net R&D value	17454
No. of shares (mn)	25.5
No. of shares - Post Dilution (mn)*	30.6
R&D value/per share if it dilute equity (30.6mn share) (Rs)	570
CMP (Rs)	290
Upside (%)	**197**

**Assuming company will dilute 20% equity @Rs450/share to take care of growing R&D expenses*
Source : Emkay Research

Piramal Life science – Financials at a glance

(Rs mn)	2008	2009E
Revenue	0.6	400
R&D spend	826.0	984
Net profit (loss)	(914.5)	(670.0)
EPS (Rs)	(35.9)	(26.3)
M Capitalisation	7482	7482
No. of drug candidates in pipeline	13	13
Cash & cash equivalent*	900	2166
M cap / R&D expense	**9.1**	**7.6**
M cap / Cash	**8.3**	**3.5**
M cap/ sales	**12470**	**19**

In FY09E- we conside equity dilution of 10% @ Rs450/share,
Source : Emkay Research

Peer comparison

SPARC - Financials at a glance

Rs mn	2007	2008	2009E*
Revenue	0	375.0	650
R&D spend	(17.0)	408.0	633.0
Net profit (loss)	(50.0)	(48.8)	2
EPS (Rs)	(0.2)	(0.2)	0
M Capitalisation		18610	18610
No. of drug candidates in pipeline	8	8	8
Cash & cash equivalent	2450	2000	2000
M cap / R&D expense	**0.0**	**45.6**	**29.4**
M cap / Cash	**0.0**	**9.3**	**9.3**
M cap/ sales		**50**	**29**

** Source: Industry report*

Profiles and valuations of international R&D Companies

Below, we highlight some of the small and mid-sized companies who have scored big with a single or couple of new products.

Vertex Pharmaceuticals is a company with drug development programmes focusing on hepatitis C, HIV infection, oncology and cystic fibrosis. Vertex has 12 molecules in various clinical stages out of which fosamprenavir calcium, an HIV protease inhibitor, is being marketed through collaboration with GlaxoSmithKline, under the trade name Lexiva in the United States and under the trade name Telzir in the European Union. It has seven molecules in various clinical trial stages (1 in Phase III ~ HCV infection, 4 in Phase II ~ 2 in cancer, 1 in cystic fibrosis, 1 in RA & 2 in Phase I) and 4 are in pre-clinical stage. Vertex has granted marketing right of its lead candidate Telaprevir to Janseen pharmaceuticals for ROW markets excluding North America & Far East for a total consideration of $380mn, including an upfront payment of $165mn plus $45mn research fund. Similarly for Far East market, Vertex has tied up with Mitsubishi Tanabe Pharma Corporation for the total consideration of $33mn milestone payment, while for NA market it has kept the marketing right with itself. For cancer molecules (VX-680 ~ currently in Phase II & VX-689 ~ Preclinical candidate)), Vertex has granted marketing right to Merck for a total consideration of US$350mn, including an upfront payment of $85mn plus $15.8mn research fund. For another oncology molecule ~ VX-944 ~ Phase II candidate ~ Vertex has tied up with Avalon Pharmaceuticals and received $5mn upfront payment so far. Vertex Pharmaceuticals was founded in 1989 and is headquartered in Cambridge, Massachusetts.

Vertex - Financials at a glance

(US $M)	2005	2006	2007
Revenue	160.9	216.4	199
R&D spend	248.0	371.7	513.1
Net profit (loss)	(203.4)	(206.9)	(391.3)
EPS (US$)	(2.3)	(1.8)	(3.0)
M Capitalisation	2742	4699	3073
No. of drug candidates in pipeline			12
Cash & cash equivalent	361	704	460.7
M cap / R&D expense	**11.1**	**12.6**	**6.0**
M cap / Cash	**7.6**	**6.7**	**6.7**
M cap/ Sales	**17.0**	**21.7**	**15.4**

Source: Bloomberg

Rigel Pharmaceuticals engages in the discovery and development of novel, small-molecule drugs for the treatment of inflammatory/autoimmune diseases and cancer, as well as viral and metabolic diseases. Rigel has 4 molecules in clinical stages out of which R788 is in Phase 2 clinical trial for the treatment of rheumatoid arthritis (RA) and immune thrombocytopenia purpura (ITP). Another molecule, R348 is in Phase 1 clinical trial for the treatment of immune indications, such as psoriasis, RA, transplant rejection, and graft vs. host disease. Its products also include R763, which is in Phase 1 clinical trial in the area of oncology; and R343, a Phase 1 clinical trial product for asthma. Rigel Pharmaceuticals has collaboration agreement with Merck Serono for R763, for which it has received $18.5mn as upfront and milestone payment. Similarly it has collaboration agreement with Pfizer for R343 and already received $10mn as upfront and milestone payment so far. It has also tied up with other pharmaceuticals companies like Johnson & Johnson, Novartis Pharma , and Daiichi Pharmaceuticals. The company was founded in 1996 and is based in South San Francisco, California

Rigel - Financials at a glance

(US $M)	2005	2006	2007
Revenue	16.5	33.5	12.6
R&D spend	52.0	57.0	70.4
Net profit (loss)	(45.3)	(37.6)	(74.3)
EPS (US$)	(2.1)	(1.5)	(2.6)
M Capitalisation	202	298	788
No. of drug candidates in pipeline			4
Cash & cash equivalent	138.2	104.5	108.3
M cap / R&D expense	**3.9**	**5.2**	**11.2**
M cap / Cash	**1.5**	**2.9**	**7.3**
M cap/ Sales	**12.2**	**8.9**	**62.6**

Source: Bloomberg

Cardiome is a company with drug development programmes focusing on the cardio-vascular segment. It has one antiarrhythmic drug, Vernakalant (iv) ~RSD 1235, with an intravenous formulation in Phase III, and the oral version in Phase II. In October 2003, the company granted the North American right for the intravenous formulations to Astellas) for a total consideration of US$68mn, including an upfront payment of $10mn. In Q406, Astellas has submitted a NDA application for Vernakalant (iv) to US FDA. Cardiome also has a Phase 1 program for GED-aPC, an engineered analog of recombinant human activated Protein C, and a pre-clinical program directed at improving cardiovascular function.

Cardiome - Financials at a glance

(US $mn)	2005	2006	2007
Revenue	13.3	18.2	4.5
R&D spend	34.2	38.3	52.9
Net profit (loss)	(44.1)	(31.9)	(79.6)
EPS (US$)	(0.9)	(0.6)	(1.3)
M Capitalisation	513.7	597.7	568.4
No. of drug candidates in pipeline			
Cash & cash equivalent	63.6	47.7	68.7
M cap / R&D expense	**15.0**	**15.6**	**10.8**
M cap / Cash	**8.1**	**12.5**	**8.3**
M cap/ sales	**38.6**	**32.8**	**125.2**

Source: Bloomberg

R&D snapshot

			stages of development								
Therapeutic	Target	Compound	Preclinical				Clinical				
			Synthesis	In-vitro screening	Pharmaco-kinetics	In-vivo animal models	Toxicity	Phase I	Phase II	Phase III	Remarks
Oncology	CDK-4	P276									Currently in Phase II, Company wants to develop own its own
Oncology	CDK-4	P1446									Preclinical Clinical trials to begin soon
Oncology	Bcr-Abl	NPB-001-05									Phase II studies to be completed by mid 2008
Oncology	HIF-a	Pxxx									Preclinical, Clinical trials to begin soon
Oncology	General	Microbial leads									Preclinical studies to be completed by end 2008
Inflamation	TNF-a	P979									Preclinical, Clinical trials to begin end 2008
Inflamation	TNF-a	Back-ups									Preclinical
Inflamation	TNF-a	NPS31807									Complete on going Phase study by mid 2008
Inflamation	NSAID	P1539									Preclinical
Met. Disorder	XXXX	XXXX									
Diabetes	Non-PRAR	P-1736									Phase I to begin
Anti-infective	Dermato-phytes	NPH30907									Decision to be taken for marketing
Anti-infective	MRSA/VRE	PM181104									Phase I to begin

Source: Company, Emkay Research

Industry snapshot

The Indian pharmaceutical industry has evolved substantially and transformed itself from a reverse engineering led industry- focused in the domestic market- to a research driven, export oriented industry with a global presence.

After transforming the global generic industry, the Indian pharma industry is poised to play a decisive role in redefining the global drug discovery paradigms. We believe that with its high quality and low cost science skills, India has potential to become a key R&D player in the global pharma value chain. Availability of high quality research scientists at 1/5th of the comparable cost in US makes India an attractive destination for R&D. Product patent implementation from 2005, coupled with government incentives for R&D has also provided impetus to discovery R&D.

Research is steadily becoming an integral part of the strategy of Indian pharma companies, who want to build a sustainable long term advantage. Over the last couple of years, the discovery R&D segment has gained significant momentum and discovery R&D pipelines of several players have expanded substantially. At present, as many as 11-12 companies have molecules under various stages of development. R&D spending by Indian companies as percentage of sales has increased significantly in the past five years, from 2 to 8 percent. R&D spends of major companies have grown at a CAGR of 38% over 2001-2006. With robust activities at the R&D front, the Associated Chambers of Commerce and Industry of India (ASSOCHAM) has indicated that the R&D spending of the Indian pharmaceutical industry will reach about 9-10% of revenues by the year 2010.

Three main changes have happened over the years for the Indian pharmaceutical industry:

- Change in IP (intellectual property) regime from process to product based
- Co-options: focus on alliances (be it licensing, contract research and manufacturing, co-development, co-marketing, etc.) as a means to grow and sustain business
- Indian companies going global: adoption of inorganic avenue of growth

India's competitive advantage in offering strong chemistry innovation skills at significantly lower costs has lured many multinational innovator pharma companies to make India a major component of their global drug delivery value chain.

Declining R&D productivity, drying R&D pipeline, patent expirations of block buster drugs coupled with pressure on margins has forced global pharmaceuticals companies to revisit their business strategies.

Global discovery and clinical research outsourcinh is expected to increase from US$18bn in 2006 to $33bn by 2010 (CAGR 16%). As per Kolorama information, the outsourcing proportion for US pharmaceuticals had increased substantially from 10% in 1997 to 33% in 2005. The proportion is expected to rise further to 41% by 2009, implying a CAGR of 16.5% in the R&D outsourcing.

Emkay Share and Stock Brokers Ltd.,
Paragon Center, Ground Floor, C-6
Pandurang Budhkar Marg, Worli, Mumbai – 400 013. , Tel no. 66121212. Fax: 66121299