



ViroPharma

Outperform (1)

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Analysts

Joshua Schimmer, M.D.
(646) 562-1344
joshua.schimmer@cowen.com

VPHM Adds Another Strong Leg To Stand On

Conclusion: Last night after the close, VPHM announced impressive results from a Phase Ib study of HCV796 plus PEG-Intron. Results are the best we've ever seen for an HCV polymerase inhibitor and suggest 796 could play a very meaningful role in HCV. VPHM is trading at just 10x our NT and LT EPS estimates and now has 4 solid legs to stand on: 1) current profitability from Vancocin; 2) maribavir for CMV prevention; 3) strong cash position; and now 4) HCV796 for HCV. We believe current share price reflects only 2 or 3 of these 4 pillars, and we reiterate our Outperform rating on shares.

HCV796 Shows Meaningful Viral Load Reduction. The Phase Ib study was a 14 day, placebo-controlled study of treatment-naïve HCV patients, of which 2/3 were genotype 1. Four HCV796 dose groups were evaluated ranging from 100mg to 1000mg twice daily with PEG-Intron. After 2 weeks, patients who received PEG-Intron alone had a 1 log viral load reduction, while the addition of HCV796 added an additional 1.8-1.9 log of antiviral activity. Importantly, there was no evidence of virologic rebound that had been seen in an earlier HCV796 monotherapy study.

Potential Role In A VX-950-Based Regimen. While obviously not as potent as VRTX's VX-950, HCV796 is the only non-nucleoside polymerase inhibitor in clinical development as far as we're aware and potentially complementary to a protease inhibitor such as VX-950. Consultants have already expressed interest in evaluating HCV796 in combination with VX-950. HCV796 may also play a role in non-genotype 1 HCV (30% of cases), for which VX-950 may not be developed.

Significant Value For A Potent HCV Compound. Versus IDIX's NM283, we're seeing far superior antiviral reduction with HCV796. Were a comparable market cap assigned to HCV796 as was initially attributable to NM283, it would represent >\$7/share for VPHM.

VPHM (08/29)	\$12.49	Revenue \$MM							
Mkt cap	\$886.8MM	FY	2005	2006E		2007E		2008E	2009E
Dil shares out	71.0MM	Dec	Actual	Prior	Current	Prior	Current	Current	Current
Avg daily vol	1,920.6K	Q1	27.2	—	29.4A	—	—	—	—
52-wk range	\$7.1-24.4	Q2	29.0	—	44.0A	—	—	—	—
Dividend	Nil	Q3	35.8	—	45.0	—	—	—	—
Dividend yield	Nil	Q4	40.5	—	42.7	—	—	—	—
BV/sh	\$5.00	Year	132.4	—	164.7	—	192.9	187.9	168.3
Net cash/sh	\$3.00	EV/S	—	—	—	—	2.9x	2.9x	3.3x
Debt/cap	0.0%								
ROE (LTM)	NA								
5-yr fwd EPS growth (Norm)	12.0%								
		EPS \$							
		FY	2005	2006E		2007E		2008E	2009E
		Dec	Actual	Prior	Current	Prior	Current	Current	Current
		Q1	0.36	—	0.12A	—	—	—	—
		Q2	0.11	—	0.26A	—	—	—	—
		Q3	0.31	—	0.25	—	—	—	—
		Q4	1.17	—	0.23	—	—	—	—
S&P 500	1297.4	Year	2.02	—	0.83	—	1.05	1.00	0.65
		P/E	—	—	15.0x	—	11.9x	12.5x	19.2x

Investment Thesis

ViroPharma is a pharmaceutical company with a product portfolio and pipeline focused on infectious diseases. While considerable interest once lay in its program with Sanofi and Aventis for Picovir to treat viral infections such as the common cold, safety concerns resulted in a non-approvable letter from the FDA in June 2002, leaving the company struggling. However, ViroPharma vaulted to profitability with the acquisition of oral Vancocin from Eli Lilly in November 2004. Oral Vancocin is approved for the treatment of antibiotic-associated pseudomembranous colitis due to *Clostridium difficile* and for enterocolitis caused by *Staphylococcus aureus*. Shortly after the product acquisition, oral Vancocin scrips began to demonstrate impressive growth, and ViroPharma implemented successive price increases, raising the price by 47%. Additional scrip growth and price increases should transform Vancocin from a \$40MM product in 2003 to one with \$200MM+ peak sales potential. The FDA's Office of Generic Drugs recently suggested a path for generic Vancocin entrants that would include a waiver of bioequivalence for Vancocin ANDA, which implies that lengthy head-to-head non-inferiority studies may not be required. However, VPHM has made a compelling case against the OGD's proposal, and consultants do not believe the OGD's underlying science is sufficiently strong. Maribavir is entering Phase III for CMV prevention in transplant patients after demonstrating very impressive results in a placebo-controlled Phase II study, and experts believe maribavir is likely to represent the new standard of care for CMV prevention. HCV-796 for HCV is being developed in collaboration with Wyeth, and pleconoril for treatment of the common cold, which is licensed to Schering Plough. With strong cash flow and profitability that should be sustained over the long-term by a promising pipeline, we recommend purchase of VPHM.

Viral Load Reductions In Phase Ib Study Of HCV-796

	HCV-796 + PEG-Intron	Placebo + PEG-Intron	Max Dif vs Placebo	Min Diff vs Placebo
All pts				
Day 7, all pts	2.1-2.7 log10	1.1 log10	1.7 log10	1.0 log10
Day 14, all pts	3.3-3.5 log10	1.7 log10	1.8 log10	1.6 log10
Genotype 1 pts				
Day 7	1.5-2.3 log10	0.9 log10	1.4 log10	0.6 log10
Day 14	2.6-3.2 log10	1.3 log10	1.9 log10	1.3 log10

Source: Company data

Upcoming ViroPharma Milestones

Milestone	Timing
Announce design and start Phase III maribavir studies	Mid 06
Initiate Phase III study of Maribavir for CMV prevention in stem cell transplant patients	Mid 06
Announce design and start Phase II study of HCV-796 in HCV patients	Q4:06
1-month animal tox studies for HCV-796	H2:06
Initiate Phase III study of Maribavir for CMV prevention in solid organ transplant patients	H2:06
Present Phase II maribavir data at upcoming medical meeting	H2:06
Potential update on FDA response to Petition for Stay of Action for generic Vancocin ANDAs	2006/2007
Present data from Phase Ib study of HCV-796	Q1:07

Source: Cowen and Company

2005-2011 Vancocin Revenue Estimates

	2005A	2006E	2007E	2008E	2009E	2010E	2011E
U.S. Infectious Diarrhea cases (000s)	3101	3264	3329	3396	3464	3533	3604
% <i>C. Difficile</i>	17%	18%	20%	20%	20%	20%	20%
# of U.S. <i>C. Diff</i> infectious diarrhea cases	516	588	649	679	693	707	721
<i>Vancocin</i> penetration	31%	33%	33%	30%	23%	23%	23%
# of U.S. <i>Vancocin</i> -Treated <i>C. Diff</i> cases (000s)	159	191	211	204	159	163	166
Cost of therapy	\$732	\$894	\$900	\$900	\$900	\$650	\$500
VPHM share				100%	90%	60%	50%
Vancocin Revenue (000s)	\$125,921	\$160,595	\$189,894	\$184,877	\$129,561	\$64,883	\$40,443

Source: Cowen and Company

2006-2011 Maribavir Revenue Estimates

	2006E	2007E	2008E	2009E	2010E	2011E
U.S. Stem Cell Transplants	16500	17160	17846	18560	19303	20075
% <i>autologous</i>	50%	51%	52%	53%	54%	54%
# U.S. <i>autologous</i> SCTs	8250	8752	9280	9837	10423	10840
% <i>at risk</i>	75%	75%	75%	75%	75%	75%
% <i>prophylaxis</i> penetration	0%	0%	0%	30%	50%	80%
Cost of therapy	\$0	\$0	\$0	\$13,000	\$13,650	\$14,333
Maribavir revenue, STC prophylaxis (000s)	\$0	\$0	\$0	\$28,773	\$53,355	\$93,222
U.S. solid organ transplants	26000	26520	27050	27591	28143	28706
% <i>at risk</i>	50%	50%	50%	50%	50%	50%
# of high risk U.S. solid organ transplants	13000	13260	13525	13796	14072	14353
% <i>prophylaxis</i> penetration	0%	0%	0%	0%	20%	35%
Cost of therapy	\$0	\$0	\$0	\$13,000	\$13,650	\$14,333
Maribavir revenue, solid organ prophylaxis (000s)	\$0	\$0	\$0	\$0	\$38,416	\$72,000
Maribavir revenue, total U.S. (000s)	\$0	\$0	\$0	\$28,773	\$91,770	\$165,222

Source: Cowen and Company

ViroPharma Quarterly P&L (\$MM)

	Q1:05A	Q2:05A	Q3:05A	Q4:05A	2005A	Q1:06A	Q2:06A	Q3:06E	Q4:06E	2006E
Vancocin sales	21.1	28.8	35.7	40.3	125.9	29.2	43.8	44.9	42.6	160.6
Maribavir sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milestone, license fee, other	6.1	0.1	0.1	0.1	6.6	0.1	0.1	0.1	0.1	0.5
Total Revenues	27.2	29.0	35.8	40.5	132.4	29.4	44.0	45.0	42.7	161.1
COGS	3.6	4.4	5.0	5.0	18.0	5.7	6.4	5.4	4.3	21.8
% of sales	17%	15%	14%	12%	14%	19%	15%	12%	10%	14%
R&D Expense	2.8	2.4	2.5	2.9	10.6	4.1	4.5	5.0	6.5	20.1
% of Sales	13%	8%	7%	7%	8%	14%	10%	11%	15%	12%
SG&A Expense	2.3	2.2	2.9	3.1	10.5	4.9	5.9	6.0	6.0	22.8
% of Sales	11%	8%	8%	8%	8%	17%	14%	13%	14%	14%
Intang. amortization, tech rights	1.2	1.2	1.5	1.3	5.2	1.3	1.7	1.7	1.7	6.4
Total Operating Expenses	9.8	10.3	11.9	12.3	44.3	15.9	18.6	18.1	18.5	71.1
Operating Profit (Loss)	17.4	18.7	23.9	28.2	88.1	13.4	25.4	26.9	24.3	90.0
<i>Operating Margin</i>	<i>64%</i>	<i>65%</i>	<i>67%</i>	<i>70%</i>	<i>67%</i>	<i>46%</i>	<i>58%</i>	<i>60%</i>	<i>57%</i>	<i>56%</i>
Change in fair value of derivative liability	3.6	(7.6)	0.0	(0.1)	(4.1)	0.0	0.0	0.0	0.0	0.0
Interest income	0.2	0.3	0.4	1.1	2.0	2.2	1.9	1.8	1.9	7.9
Interest expense	(3.8)	(3.8)	(2.3)	(1.4)	(11.3)	(0.9)	0.0	0.0	0.0	(0.9)
Other	0.0	1.2	0.0	0.0	1.2	(1.1)	0.0	0.0	0.0	(1.1)
Net Pre-Tax income	17.4	8.8	21.9	27.8	75.9	13.7	27.3	28.7	26.2	95.9
Taxes	0.0	3.8	3.3	(44.9)	(37.8)	5.5	10.6	10.9	9.9	36.9
<i>Tax Rate</i>	<i>0%</i>	<i>43%</i>	<i>15%</i>	<i>NM</i>	<i>NM</i>	<i>40%</i>	<i>39%</i>	<i>38%</i>	<i>38%</i>	<i>39%</i>
Net Income (Loss)	17.4	5.0	18.7	72.7	113.7	8.2	16.7	17.8	16.2	59.0
Diluted EPS	\$0.36	\$0.11	\$0.31	\$1.17	\$2.02	\$0.12	\$0.24	\$0.25	\$0.23	\$0.83
Diluted Shares (MM)	52.0	57.6	59.8	63.0	58.1	70.3	69.8	71.5	72.0	70.9

Source: Cowen and Company

ViroPharma's Annual P&L (\$MM)

	2005A	2006E	2007E	2008E	2009E	2010E	2011E
Vancocin sales	125.9	160.6	189.9	183.4	129.1	63.4	41.4
Maribavir sales	0.0	0.0	0.0	0.0	28.8	91.8	165.2
Milestone, license fee, other	6.6	0.5	3.0	3.0	10.0	10.0	10.0
Total Revenues	132.4	161.1	192.9	186.4	167.8	165.2	216.7
COGS	18.0	21.8	17.1	16.5	15.5	8.2	5.4
% of sales	14%	14%	9%	9%	12%	13%	13%
R&D Expense	10.6	20.1	30.0	30.0	35.0	35.0	35.0
% of Sales	8%	12%	16%	16%	27%	55%	84%
SG&A Expense	10.5	22.8	25.0	27.5	45.0	45.0	45.0
% of Sales	8%	14%	13%	15%	35%	71%	109%
Intang. amortization, tech rights	5.2	6.4	7.0	6.0	6.0	6.0	6.0
Total Operating Expenses	44.3	71.1	79.1	80.0	101.5	94.2	91.4
Operating Profit (Loss)	88.1	90.0	113.8	106.4	66.3	70.9	125.3
<i>Operating Margin</i>	<i>67%</i>	<i>56%</i>	<i>59%</i>	<i>57%</i>	<i>40%</i>	<i>43%</i>	<i>58%</i>
Change in fair value of derivative liability	(4.1)	0.0	0.0	0.0	0.0	0.0	0.0
Interest income	2.0	7.9	9.0	11.0	11.0	12.0	13.0
Interest expense	(11.3)	(0.9)	0.0	0.0	0.0	0.0	0.0
Other	1.2	(1.1)	0.0	0.0	0.0	0.0	0.0
Net Pre-Tax	75.9	95.9	122.8	117.4	77.3	82.9	138.3
Taxes	(37.8)	36.9	46.7	44.6	29.4	31.5	52.5
<i>Tax Rate</i>	<i>NM</i>	<i>39%</i>	<i>38%</i>	<i>38%</i>	<i>38%</i>	<i>38%</i>	<i>38%</i>
Net Income (Loss)	113.7	59.0	76.1	72.8	48.0	51.4	85.7
Diluted EPS	\$2.02	\$0.83	\$1.05	\$1.00	\$0.65	\$0.70	\$1.15
Diluted Shares (MM)	58.1	70.9	72.5	73.0	73.5	73.9	74.3

Source: Cowen and Company

Addendum

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Ticker	Company Name
VPHM	ViroPharma

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