

Edward A. Tenthoff, Sr Research Analyst
212 284-9403, edward.a.tenthoff@pjc.com
Piper Jaffray & Co.

Chad J. Messer, Ph.D., Research Analyst
212 284-9326, chad.j.messer@pjc.com
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Reason for Report:

Company Update

Changes	Previous	Current
Rating	--	Overweight
Price Tgt	--	\$9.00
FY10E Rev (mil)	--	\$0.0
FY11E Rev (mil)	--	\$0.0
FY10E EPS	--	(\$1.72)
FY11E EPS	--	(\$1.44)
Price:		\$5.67
52 Week High:		\$8.55
52 Week Low:		\$2.82
12-Month Price Target:		\$9.00

Proj EV of \$288M + mid'11E cash

Shares Out (mil): 32.8

Includes recent PIPE

Market Cap. (mil):	\$186.0
Avg Daily Vol (000):	81
Book Value/Share:	\$2.14
Net Cash Per Share:	\$2.23
Debt to Total Capital:	0%
Est LT EPS Growth:	NA
P/E to LT EPS Growth (FY11):	NA
Est Next Rep Date:	02/01/2011
Fiscal Year End:	Dec

Rev (mil)	2009A	2010E	2011E
Mar	\$0.0A	\$0.0A	\$0.0E
Jun	\$0.0A	\$0.0A	\$0.0E
Sep	\$0.0A	\$0.0A	\$0.0E
Dec	\$0.0A	\$0.0E	\$0.0E
FY	\$0.0A	\$0.0E	\$0.0E
CY	\$0.0A	\$0.0E	\$0.0E
FY RM	NM	NM	NM
CY RM	NM	NM	NM

EPS	2009A	2010E	2011E
Mar	(\$2.57)A	(\$0.83)A	(\$0.42)E
Jun	(\$2.22)A	(\$0.36)A	(\$0.36)E
Sep	(\$2.40)A	(\$0.36)A	(\$0.30)E
Dec	(\$0.98)A	(\$0.36)E	(\$0.36)E
FY	(\$8.06)A	(\$1.72)E	(\$1.44)E
CY	(\$8.06)A	(\$1.72)E	(\$1.44)E

FY P/E	NM	NM	NM
CY P/E	NM	NM	NM

Quarterly EPS does not add to full year result

Anthera Pharmaceuticals Overweight

(ANTH - \$5.67)

More Details on Lupus Trial Halting

CONCLUSION:

Anthera management held a conference call to discuss the halting of enrollment and dosing in the Phase IIb PEARL-SC trial of A623 in lupus due to a defect in the vials containing study drug. Less than 30 patients had received drug to date. Anthera has informed the FDA of the trial halting and is conducting a full review of its clinical materials and supply chain. Anthera was unable to forecast the length of the delay, but we are making no changes to our forecast at this time.

- **PEARL-SC Trial Halted Due to Vial Defect.** Anthera management held a conference call to discuss the halting of enrollment and dosing in the Phase IIb PEARL-SC trial of A-623 in lupus due to a defect in the vials containing study drug that resulted in the vials cracking. Less than 30 patients were on study drug at the time the trial halted. There have been no reports of patient adverse events due to the defective vials. Anthera has informed the FDA of the trial halting and is conducting a full review of its clinical materials and supply chain and will assess both long and short term solutions to the problem once its full nature is understood. Although the trial halting will result in a near term reduction in cash burn, we are making no changes to our forecast at this time given the uncertainty around the length of the delay.
- **Larger and Longer A-623 Lupus Study.** In July, Anthera began the Phase IIb PEARL SC trial of A-623 for the treatment of lupus. PEARL will randomize up to 600 systemic lupus erythmatosus (SLE) patients to 3 doses of A-623 or placebo for 24 weeks on top of standard background therapy. The company has completed a 2nd manufacturing run to supply drug for the trial and should announce a large scale manufacturing agreement soon. The primary endpoint is the SLE responder index used by HGS in the *Benlysta* BLISS studies. PEARL is both larger and longer in our view, dramatically increasing the likelihood of success.
- **VISTA-16 Enrolling Patients.** Also in July, Anthera initiated the pivotal VISTA-16 trial of varespladib. An analysis will be performed after the first 1,000 patients likely in 1Q:11 and we expect final data by early 2012. Anthera will report additional varespladib data from the Phase IIb FRANCIS study at the AHA meeting in Chicago tomorrow.
- **Strong Cash to Reach Value Driving Data.** Anthera ended 3Q:10 with a strong cash balance of \$73 million, which we forecast should last into 2012. By this time Anthera should have reported top-line PEARL and VISTA-16 data.

** Priced as of the close on November 16, 2010.*

INVESTMENT RECOMMENDATION:

We reiterate our Overweight rating and \$9 price target. We value varespladib at \$288 million and add mid'11E net cash and assuming exercise of the warrants. Anthera holds no debt.

RISKS TO ACHIEVEMENT OF TARGET PRICE:

Risks include clinical, regulatory and commercial. Varespladib and/or A-623 may fail in the clinic. Anthera may require additional cash from the capital markets.

COMPANY DESCRIPTION:

Anthera is a biopharmaceutical company developing varespladib and A-623.

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Anthera Pharmaceuticals
Quarterly Earnings Estimates
(\$ in thousands except per share)

3-Nov-10

	1QA	2QA	3QA	4QA	2009A	1QA ¹	2QA	3QA	4QE	2010E	1QE	2QE	3QE	4QE	2011E
Total Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Expenses:															
R&D Expense	2,915	2,286	2,526	688	8,415	\$5,242	\$6,438	6,885	10,000	28,565	12,000	10,000	8,000	10,000	40,000
SG&A Expense	846	999	885	695	3,425	1,224	1,510	1,510	2,000	6,244	2,000	2,000	2,000	2,000	8,000
Total Operating Expenses	\$3,761	\$3,286	\$3,411	\$1,383	11,841	\$6,466	\$7,948	\$8,395	\$12,000	34,809	\$14,000	\$12,000	\$10,000	\$12,000	48,000
Operating Loss	(\$3,761)	(\$3,286)	(\$3,411)	(\$1,383)	(\$11,841)	(\$6,466)	(\$7,948)	(\$8,395)	(\$12,000)	(\$34,809)	(\$14,000)	(\$12,000)	(\$10,000)	(\$12,000)	(\$48,000)
Interest and Other Income	13	9	(0)	2	24	3	\$12	62	65	142	55	45	40	35	175
Interest Expense	(37)	(59)	(193)	(96)	(385)	(4,641)	0	0	0	(4,641)	0	0	30	20	50
Total Other Income (Expense)	(24)	(50)	(193)	(94)	(362)	(4,638)	12	62	65	(4,500)	55	45	70	55	225
Pre-Tax Loss	(\$3,785)	(\$3,336)	(\$3,604)	(\$1,477)	(\$12,203)	(\$11,104)	(\$7,936)	(\$8,334)	(\$11,935)	(\$39,309)	(\$13,945)	(\$11,955)	(\$9,930)	(\$11,945)	(\$47,775)
Income Tax Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Loss	(\$3,785)	(\$3,336)	(\$3,604)	(\$1,477)	(\$12,203)	(\$11,104)	(\$7,936)	(\$8,334)	(\$11,935)	(\$39,309)	(\$13,945)	(\$11,955)	(\$9,930)	(\$11,945)	(\$47,775)
Net Loss per Share	(\$2.57)	(\$2.22)	(\$2.40)	(\$0.98)	(\$8.06)	(\$0.83)	(\$0.36)	(\$0.36)	(\$0.36)	(\$1.72)	(\$0.42)	(\$0.36)	(\$0.30)	(\$0.36)	(\$1.44)
Shares Outstanding	1,471	1,500	1,500	1,500	1,514	13,344	22,224	22,964	33,000	22,883	33,100	33,200	33,300	33,500	33,275

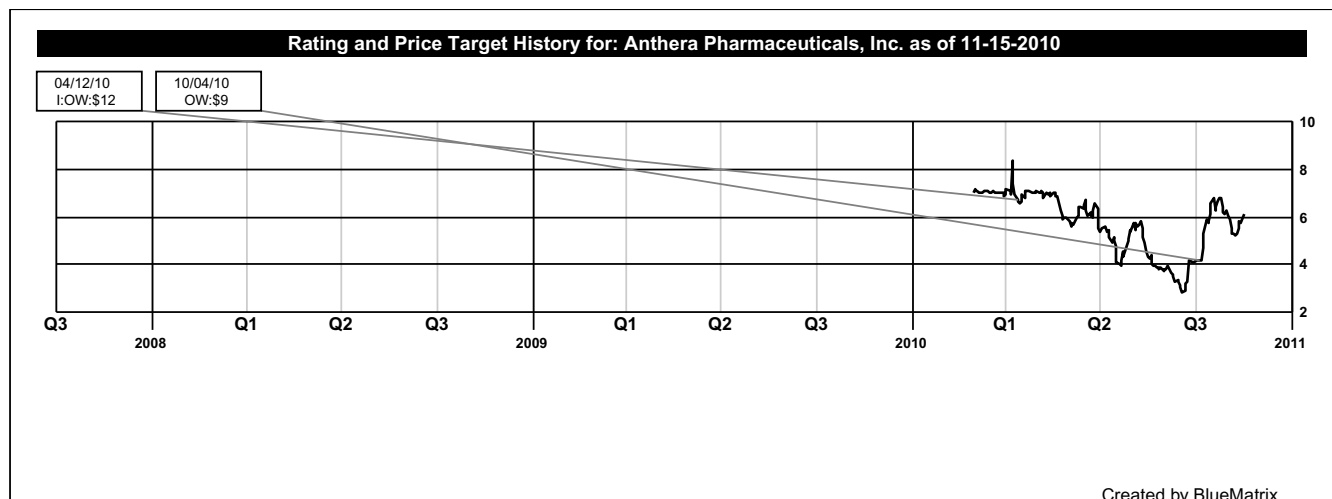
Source: Company reports and Piper Jaffray estimates.

Note: CY:09A results include adjusted primary share count excluding preferred stock. As a result, quarterly EPS does not add to full year result.

1. 1Q:10 R&D expense includes \$3.5 million non-cash milestone payment in IPO stock to Lilly and Shinogi.

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R: Resuming Coverage

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S: Suspending Coverage

OW: Overweight

N: Neutral

UW: Underweight

B: Buy (Piper Jaffray discontinued use of the B, N, and S ratings on June 30, 2009)

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NA: Not Available

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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [OW]	301	49.10	64	21.26
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SELL [UW]	47	7.70	2	4.26

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Analyst Certification — Edward A. Tenthoff, Sr Research Analyst — Chad J. Messer, Ph.D., Research Analyst

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