

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
Piper Jaffray & Co.

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:	\$6.12
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):	\$200.7
Avg Daily Vol (000):	75
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 - \$6.12)

Expect Minimal Delay From Lupus Trial Halting; Buy on Weakness

CONCLUSION:

Anthera recently halted enrollment and dosing in the Phase IIB PEARL-SC trial of A623 in lupus due to a defect in the vials containing study drug that resulted in cracking. There have been no reports of patient adverse events due to the defective vials. We anticipate a short delay in enrollment and would be buyers on weakness.

- **PEARL-SC Trial Halted Due to Vial Defect.** Anthera halted 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 cracking. There have been no reports of patient adverse events due to the defective vials. We anticipate a short delay with minimal impact to trial timeline and cost. In the worst case scenario, Anthera would need to make all new trial material which would take ~6 months. We reiterate our overweight and would be buyers of ANTH share on any weakness. Management is holding a conference call this evening at 5pm EST to discuss the details further.

- **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 erythematosus (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 will 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. Anthera has an SPA agreement with the FDA for a single Phase III ACS study comparing 500mg QD varespladib to placebo on top of *Lipitor* for 16 weeks. VISTA-16 will enroll up to 6,500 ACS patients yielding an expected 385 events and is 80% powered to show a 25% improvement in MACE. 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.

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.

Piper Jaffray does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decisions. This report should be read in conjunction with important disclosure information, including an attestation under Regulation Analyst certification, found on pages 3 - 5 of this report or at the following site: <http://www.piperjaffray.com/researchdisclosures>.

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

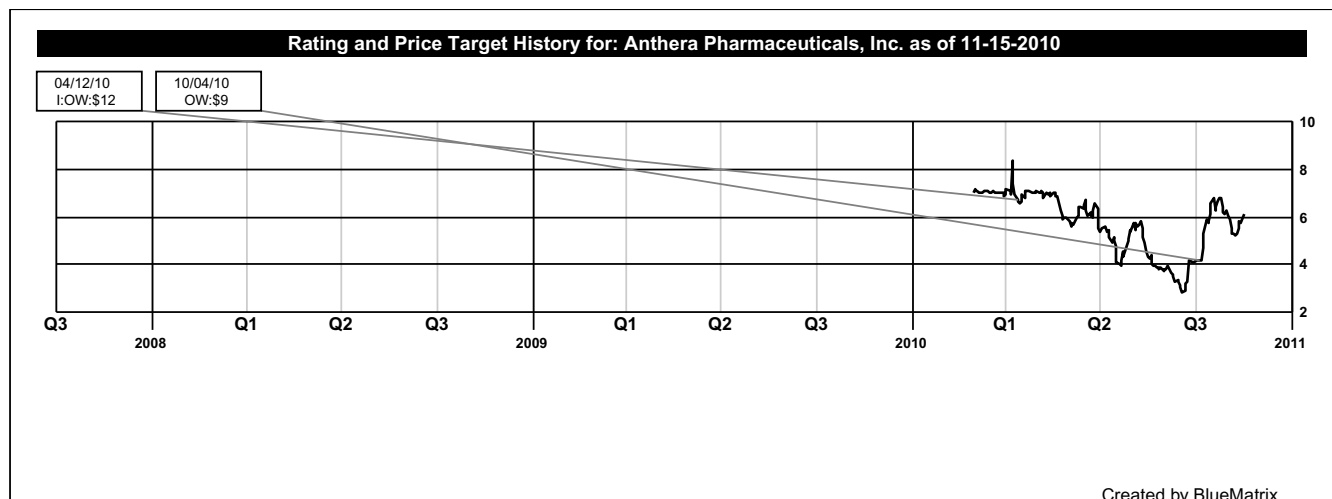
Source: Company reports and Piper Jaffray estimates.

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.

Current disclosure information for this company can be found at <http://www.piperjaffray.com/researchdisclosures>.

Important Research Disclosures



Notes: The boxes on the Rating and Price Target History chart above indicate the date of the Research Note, the rating, and the price target. Each box represents a date on which an analyst made a change to a rating or price target, except for the first box, which may only represent the first Note written during the past three years.

Legend:

I: Initiating Coverage

R: Resuming Coverage

T: Transferring Coverage

D: Discontinuing Coverage

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)

N: Neutral

S: Sell

AL On/AL Off: Placed on/removed from the Alpha List maintained by Piper Jaffray (AL use discontinued March 2010)

NA: Not Available

UR: Under Review

Distribution of Ratings/IB Services Piper Jaffray				
Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [OW]	301	49.10	64	21.26
HOLD [N]	265	43.20	28	10.57
SELL [UW]	47	7.70	2	4.26

Note: Distribution of Ratings/IB Services shows the number of companies currently in each rating category from which Piper Jaffray and its affiliates received compensation for investment banking services within the past 12 months. FINRA rules require disclosure of which ratings most closely correspond with "buy," "hold," and "sell" recommendations. Piper Jaffray ratings are not the equivalent of buy, hold or sell, but instead represent recommended relative weightings. Nevertheless, Overweight corresponds most closely with buy, Neutral with hold and Underweight with sell. See Stock Rating definitions below.

Important Research Disclosures

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

The views expressed in this report accurately reflect my personal views about the subject company and the subject security. In addition, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this report.

Research Disclosures

Piper Jaffray was making a market in the securities of Anthera Pharmaceuticals, Inc. at the time this research report was published. Piper Jaffray will buy and sell Anthera Pharmaceuticals, Inc. securities on a principal basis.

Piper Jaffray expects to receive or intends to seek compensation for investment banking services from Anthera Pharmaceuticals, Inc. in the next 3 months.

Piper Jaffray has received compensation for investment banking services from or has had a client relationship with Anthera Pharmaceuticals, Inc. within the past 12 months.

Within the past 12 months Piper Jaffray was a managing underwriter of a public offering of, or dealer manager of a tender offer for, the securities of Anthera Pharmaceuticals, Inc. or the securities of an affiliate.

Within the past 3 years Piper Jaffray participated in a public offering of, or acted as a dealer manager for, Anthera Pharmaceuticals, Inc. securities.

Affiliate Disclosures: This report has been prepared by Piper Jaffray & Co. and/or its affiliate Piper Jaffray Asia Securities Limited, both of which are subsidiaries of Piper Jaffray Companies (collectively Piper Jaffray). Piper Jaffray & Co. is regulated by FINRA, NYSE, and the United States Securities and Exchange Commission, and its headquarters is located at 800 Nicollet Mall, Minneapolis, MN 55402. Piper Jaffray Asia Securities Limited is a licensed corporation regulated by the Securities and Futures Commission of Hong Kong ("SFC"), entered on the SFC's register, no. ABO154, and is an exchange participant of The Stock Exchange of Hong Kong Limited. Its headquarters is located at Suite 1308, 13/F Two Pacific Place, 88 Queensway, Hong Kong. Disclosures in this section and in the Other Important Information section referencing Piper Jaffray include all affiliated entities unless otherwise specified.

Piper Jaffray research analysts receive compensation that is based, in part, on overall firm revenues, which include investment banking revenues.

Rating Definitions

Stock Ratings: Piper Jaffray ratings are indicators of expected total return (price appreciation plus dividend) within the next 12 months. At times analysts may specify a different investment horizon or may include additional investment time horizons for specific stocks. Stock performance is measured relative to the group of stocks covered by each analyst. Lists of the stocks covered by each are available at www.piperjaffray.com/researchdisclosures. Stock ratings and/or stock coverage may be suspended from time to time in the event that there is no active analyst opinion or analyst coverage, but the opinion or coverage is expected to resume. Research reports and ratings should not be relied upon as individual investment advice. As always, an investor's decision to buy or sell a security must depend on individual circumstances, including existing holdings, time horizons and risk tolerance. Piper Jaffray sales and trading personnel may provide written or oral commentary, trade ideas, or other information about a particular stock to clients or internal trading desks reflecting different opinions than those expressed by the research analyst. In addition, Piper Jaffray technical research products are based on different methodologies and may contradict the opinions contained in fundamental research reports.

- **Overweight (OW):** Anticipated to outperform relative to the median of the group of stocks covered by the analyst.
- **Neutral (N):** Anticipated to perform in line relative to the median of the group of stocks covered by the analyst.
- **Underweight (UW):** Anticipated to underperform relative to the median of the group of stocks covered by the analyst.

An industry outlook represents the analyst's view of the industry represented by the stocks in the analyst's coverage group. A Favorable industry outlook generally means that the analyst expects the fundamentals and/or valuations of the industry to improve over the investment time horizon. A Neutral industry outlook generally means that the analyst does not expect the fundamentals and/or valuations of the industry to either improve or deteriorate meaningfully from its current state. An Unfavorable industry outlook generally means that the analyst expects the fundamentals and/or valuations of the industry to deteriorate meaningfully over the investment time horizon.

Other Important Information

The material regarding the subject company is based on data obtained from sources we deem to be reliable; it is not guaranteed as to accuracy and does not purport to be complete. This report is solely for informational purposes and is not intended to be used as the primary basis of investment decisions. Piper Jaffray has not assessed the suitability of the subject company for any person. Because of individual client requirements, it is not, and it should not be construed as, advice designed to meet the particular investment needs of any investor. This report is not an offer or the solicitation of an offer to sell or buy any security. Unless otherwise noted, the price of a security mentioned in this report is the market closing price as of the end of the prior business day. Piper Jaffray does not maintain a predetermined schedule for publication of research and will not necessarily update this report. Piper Jaffray policy generally prohibits research analysts from sending draft research reports to subject companies; however, it should be presumed that the analyst(s) who authored this report has had discussions with the subject company to ensure factual accuracy prior to publication, and has had assistance from the company in conducting diligence, including visits to company sites and meetings with company management and other representatives.

This report is published in accordance with a conflicts management policy, which is available at <http://www.piperjaffray.com/researchdisclosures>.

Notice to customers: This material is not directed to, or intended for distribution to or use by, any person or entity if Piper Jaffray is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to such person or entity. Customers in any of the jurisdictions where Piper Jaffray and its affiliates do business who wish to effect a transaction in the securities discussed in this report should contact their local Piper Jaffray representative. **Europe:** This material is for the use of intended recipients only and only for distribution to professional and institutional investors, i.e. persons who are authorised persons or exempted persons within the meaning of the Financial Services and Markets Act 2000 of the United Kingdom, or persons who have been categorised by Piper Jaffray Ltd. as professional clients under the rules of the Financial Services Authority. **Asia:** This report is distributed in Hong Kong by Piper Jaffray Asia Securities Limited, which is regulated by the Hong Kong SFC. This report is intended only for distribution to professional investors as defined in the Hong Kong Securities and Futures Ordinance and is for the use of intended recipients only. **United States:** This report is distributed in the United States by Piper Jaffray & Co., member SIPC, FINRA and NYSE, Inc., which accepts responsibility for its contents. The securities described in this report may not have been registered under the U.S. Securities Act of 1933 and, in such case, may not be offered or sold in the United States or to U.S. persons unless they have been so registered, or an exemption from the registration requirements is available.

This report is produced for the use of Piper Jaffray customers and may not be reproduced, re-distributed or passed to any other person or published in whole or in part for any purpose without the prior consent of Piper Jaffray & Co. Additional information is available upon request.

Copyright 2010 Piper Jaffray. All rights reserved.