

Equity Research

Calithera Biosciences, Inc.

CALA: Q1--Table Is Now Set For Updated Ph. I data At ASCO/EHA

Summary: After the 5/7/15 market close Calithera reported Q1 financial results for a quarter highlighted by: (1) continued build out of its executive team with the hiring of a new Vice President of clinical development, (2) in-licensing global rights to a novel preclinical stage hexokinase II inhibitor program (from TransTech Pharma), (3) further advancement of its robust Phase I clinical program for CB-839 in three monotherapy, dose-escalation studies, and (4) expansion of the Ph. I solid tumor study to evaluate 600mg twice daily (b.i.d.), the go-forward dose, in four key tumors: triple-negative breast (TNBC), renal-cell carcinoma (RCC), non-small cell lung (NSCLC) and rare Kreb's cycle driver enzyme mutation cancers (See Exhibit #1). While posters/oral presentations for CB-839 at the American Association for Cancer Research (AACR) Meeting in April provided investors with a greater appreciation for CB-839's preclinical profile in NSCLC and RCC, identified two additional genetic biomarkers that may help identify/select NSCLC/RCC patients more likely to respond to CB-839 (potentially helping reduce clinical/regulatory/commercial risks for CB-839's development), and further demonstrated synergies with various investigational and standard of care regimens, the table is now set for the 1st major update (since the S-1 in September 2014) on CB-839's Ph. I efficacy (and safety) profile. While ultimately CB-839 will most likely be developed in combinations with other therapeutics (driven by tumor type and mutational status), we believe monotherapy results demonstrating objective responses will help illustrate the promise of targeting cancer cells' metabolic processes as an emerging and viable therapeutic approach. We see the stock as oversold since the AACR Meeting. Based on changes to our model, our 2015E and 2016E EPS losses increase to -\$2.02 from -\$1.83 and to -\$2.32 from -\$1.99, and we are lowering our valuation range to \$27-30 from \$35-40. *(Continued on the following page.)*

Valuation Range: \$27.00 to \$30.00 from \$35.00 to \$40.00

We blend a sum-of-parts valuation using P/S multiples of 4.0-5.5x and P/E multiples of 25-30x applied to 2025E revenue of ~\$376MM and EPS of \$5.06, discounted at 15-18%. Key risks include clinical trial failure, a safety signal for CB-839, and financing risk.

Investment Thesis:

We believe CALA is under-valued based on CB-839's long-term potential in end-stage myeloma and triple-negative breast cancer.

Outperform / V

Sector: Biotechnology

Market Weight

Earnings Estimate Revised Down

	2014A	2015E	2016E		
EPS		Curr.	Prior	Curr.	Prior
Q1 (Mar.)	(\$22.80)	(\$0.44) A	(0.39)	NE	
Q2 (June)	(24.22)	(0.46)	(0.42)	NE	
Q3 (Sep.)	(16.85)	(0.54)	(0.50)	NE	
Q4 (Dec.)	(0.39)	(0.58)	(0.53)	NE	
FY	(\$4.67)	(\$2.02)	(1.83)	(\$2.32)	(1.99)
CY	(\$4.67)	(\$2.02)		(\$2.32)	
FY P/EPS	NM	NM		NM	
Rev.(MM)	\$0	\$0		\$0	

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters
NA = Not Available, NC = No Change, NE = No Estimate, NM = Not Meaningful
V = Volatile, * = Company is on the Priority Stock List

2014 quarters may not sum to FY 2014 due to differences in shares outstanding and rounding.

Ticker	CALA
Price (05/07/2015)	\$9.52
52-Week Range:	\$6-34
Shares Outstanding: (MM)	17.9
Market Cap.: (MM)	\$170.4
S&P 500:	2,088.00
Avg. Daily Vol.:	329,326
Dividend/Yield:	\$0.00/0.0%
LT Debt: (MM)	\$0.0
LT Debt/Total Cap.:	0.0%
ROE:	NM
3-5 Yr. Est. Growth Rate:	75.0%
CY 2015 Est. P/EPS-to-Growth:	NM
Last Reporting Date:	03/31/2015
	After Close

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters

Matthew J. Andrews, Senior Analyst
(617) 603-4218

matthew.j.andrews@wellsfargo.com

Please see page 7 for rating definitions, important disclosures and required analyst certifications

All estimates/forecasts are as of 05/08/15 unless otherwise stated.

Wells Fargo Securities, LLC 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 the report and investors should consider this report as only a single factor in making their investment decision.

Together we'll go far



Continued from Front Page

- **Updated Ph. I efficacy data upcoming at the American Society of Clinical Oncology (ASCO) and European Hematology Association (EHA) Meetings.** On Saturday May 30 updated monotherapy data in solid tumors will be presented at the ASCO Meeting as a poster: Abstract #2512 “Safety and tolerability of increasing doses of CB-839, a first-in-class, orally administered small molecule inhibitor of glutaminase, in solid tumors.” In addition, CALA will host an investor/analyst event at 6:30 pm CT (location to be announced). Data in the poster will be for all doses studied (from 100mg t.i.d. up to 1,000mg t.i.d), including those patients at the go-forward Ph. I(b) dose of 600mg who are response eligible. *Note:* data in the abstract that will be released on Wednesday May 13 at 5 pm ET were from early 2015. Data that will appear in the poster on May 30 will include a meaningfully larger number of patients as well as updated pharmacokinetic/pharmacodynamics/safety, and biological activity (e.g., objective responses, disease stabilization). Ph. I monotherapy data from the Acute Myeloid Leukemia cohort (study CX-839-003) will be presented at the EHA Meeting in mid-June for all doses studied and those patients who have been dosed at 600mg and are response eligible.
- **Safety profile continues to appear promising and generally consistent with prior data in the S-1 filing.** *Note: management provided this update as part of its March 27, 2015 FY 2014 earnings call.* With ASCO and EHA Meeting abstracts submitted (and embargo policies in place), management provided a top-level overview of CB-839's safety profile to date. In an analysis of 57 patients (from 61 recruited in Ph. I dose-escalation), a majority of adverse events have been mild to moderate and primarily Grade 1 or 2. Treatment-emergent Grade 3 or 4 events likely related to CB-839 which have occurred in 5%+ patients have included febrile neutropenia, thrombocytopenia, low sodium, and increases in alkaline phosphatase and ALT/AST enzymes. A single dose-limiting toxicity (DLT) of renal dysfunction occurred at the 250mg dose with no additional DLTs observed up to 1,000mg t.i.d. Importantly, there has been no significant CNS toxicity observed to date, consistent with data in the S-1. Recall CNS toxicity has been the key historical safety issue that led to termination of prior glutaminase inhibitors.
- **Financials:** Calithera reported a Q1 net loss of -\$0.44 (vs. our -\$0.39) driven by slightly higher than expected operating expenses (\$7.8 million vs. our \$7 million estimate). Cash as of March 31, 2015, was \$94.2 million and the company reiterated its guidance of \$65 million on hand at the end of 2015 (even in light of the increase in the Ph. I dose expansion and Ph. I(b) combination studies). Based on its current clinical strategy for CB-839, Calithera believes cash on hand will fund operations through 2017 when top-line Ph. II data emerge for its two planned combination studies in TNBC and R/R MM.

Exhibit 1. Phase I(a)/(b) and II CB-839 clinical program

Study	"N"	Population in Ph. I dose-escalation portion	Being studied at 600mg b.i.d. expansion dose?	Planned Phase I(b) portion of program	Potential Phase II design
CX-839-001	~100	TNBC	Yes	CB-839 + paclitaxel (n=10-12 patients) [#]	TNBC: Randomized: CB-839 + pac vs. pac + placebo (n= ~200-300; TBD)
		NSCLC (KRAS only)	Yes		
		RCC (clear cell)	Yes	CB-839 + everolimus (n=10-12 patients) [#]	
		Driver mutations*	Yes		
CX-839-002	~65	MM		(1) CB-839 + pomalidomide/dexamethasone and (2) CB-839 + dexamethasone (n=10-12 patients in each cohort) [#]	MM: Randomized: CB-839/pom/dex vs. pom/dex/placebo (n= ~200-300; TBD)
		NHL			
CX-839-003	~40-50	ALL			TBD
		AML [^]			

Source: Company reports, www.clinicaltrials.gov, and Wells Fargo Securities, LLC

Note: * = rare mutations such as GIST and HLRCC and will represent ~10% of recruited patients; ^ = can include treatment-naïves if 60+ years and are ineligible for transplant or standard chemotherapy. [#] = depending on activity could increase to 30 patients.**Exhibit 2. Four Cases of Stable Disease and a near Minor Response...at Low Doses, as of September 2014**

Baseline characteristics of patients and types of solid tumor blood cancers across the studies		
24 enrolled as of July 25, 2014 with relapsed/refractory disease with mean of 5 priors and some up to 15 prior therapies.		
001 Study	Dosing at 400mg	N=15 (5 colorectal; 5 triple-negative breast; 2 renal cell; 1 each: cholangiocarcinoma, sarcoma, mesothelioma)
002 Study	Dosing at 250mg	N=3 (multiple myeloma)
003 Study	Dosing at 600mg	N=6 (5 AML; 1 ALL)
Preliminary safety and efficacy in monotherapy dose-escalation phase		
Efficacy	Mesothelioma (N=1)	Duration: 5 cycles
	Multiple Myeloma (n=2)	Duration: 5 cycles
	TNBC (n=1)	On therapy; 3 cycles
		13% tumor shrinkage

Source: Company reports and Wells Fargo Securities, LLC

Exhibit 3. Calithera's Upcoming Milestones Chart

Agent	Timing	Event
CB-839	May 29 - June 2, 2015	Present the initial Ph. I monotherapy efficacy/safety data in solid tumors and in any response-assessable patients at the 600mg cohort expansion dose, at the ASCO Meeting (Chicago, Illinois).
	June 11-14, 2015	Present the initial Ph. I monotherapy efficacy/safety data in AML and in any response-assessable patients at the 600mg cohort expansion dose, at the EHA Meeting (Vienna, Austria).
	December 5-9, 2015	Present the Ph. I monotherapy dose-escalation, 600mg cohort expansion, and Ph. I(b) combination data for the MM/NHL and ALL/AML studies at the ASH Meeting (Orlando, Florida).
	December 8-12, 2015	Present the Ph. I 600mg cohort expansion and Ph. I(b) combination data for the TNBC study at the SABCS (San Antonio, Texas).
	Through H2 2015/H1 2016	Report the Ph. I monotherapy cohort expansion results at 600mg b.i.d. in KRAS NSCLC, RCC, and TCA enzyme driver cycle solid tumors, and Ph. I(b) combination data for the RCC study.
	H1 2016	Complete the Ph. I monotherapy and Ph. I(b) combination studies.
	H1 2016	Meet with FDA (and CHMP/EMA) to discuss Ph. I(a)/(b) data and Ph. II protocols.
	Mid-2016	Initiate the Ph. II randomized studies in TNBC and MM (and possibly other solid tumors including those with rare driver mutations). Both studies to potentially include 100's of patients.
	End 2017/H1 2018	Complete the Ph. II randomized studies in TNBC and MM.
Arginase Inhibitor	2018	Initiate Ph. III studies in TNBC and MM.
	2015	Complete various preclinical toxicology and other studies.
	End 2015/early 2016	Submit the IND to regulatory agencies.
Hexokinase inhibitor	H1 2016	Initiate a Ph. I clinical program.
	H2 2016/2017	Submit the IND to regulatory agencies.

Source: Company reports and Wells Fargo Securities, LLC estimates

Exhibit 4. Calithera's Income Statement

Calithera Biosciences, Inc. (CALA)

Statement of Operations

FY Ends December 31

(In 000's, except per share data.)

Matthew J. Andrews (617) 603-4218

	FY 2014A	Q1 2015A	Q2 2015E	Q3 2015E	Q4 2015E	FY 2015E	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E
Revenues																
CB-839 U.S. Sales (35% probability)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,338	\$52,708	\$118,338	\$214,844	\$326,393
Royalty on ex-U.S. sales of CB-839 (35% probability)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,075	\$10,818	\$25,351	\$45,618
Collaboration revenue on CB-839 (35% probability)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,375	\$4,375	\$27,125	\$48,125	\$25,375	\$4,375	\$4,375	\$4,375
Total revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,375	\$4,375	\$27,125	\$54,463	\$81,159	\$133,531	\$244,570	\$376,386
Expenses																
Cost of Goods Sold	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$634	\$5,271	\$11,834	\$21,484	\$32,639
Research and development	\$16,367	\$5,630	\$6,000	\$7,000	\$7,500	\$26,130	\$30,000	\$35,000	\$35,000	\$35,000	\$37,500	\$35,000	\$37,500	\$40,000	\$40,000	\$45,000
General and administrative	\$3,213	\$2,237	\$2,250	\$2,750	\$3,000	\$10,237	\$12,000	\$14,000	\$16,000	\$20,000	\$25,000	\$52,500	\$62,500	\$70,000	\$77,500	\$82,500
Total Expenses	\$19,580	\$7,867	\$8,250	\$9,750	\$10,500	\$36,367	\$42,000	\$49,000	\$51,000	\$55,000	\$62,500	\$88,134	\$105,271	\$121,834	\$138,984	\$160,139
Profit/Loss from Operations	(\$19,580)	(\$7,867)	(\$8,250)	(\$9,750)	(\$10,500)	(\$36,367)	(\$42,000)	(\$49,000)	(\$18,625)	(\$50,625)	(\$35,375)	(\$33,671)	(\$24,112)	\$11,697	\$105,585	\$216,247
Other Income	\$9	\$9	\$8	\$7	\$7	\$31	\$16	\$558	\$1,099	\$1,071	\$747	\$1,147	\$1,599	\$1,626	\$2,080	\$3,307
Gain on extinguishment of convertible preferred stock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net profit (loss) before income tax expense	(\$19,571)	(\$7,858)	(\$8,242)	(\$9,743)	(\$10,493)	(\$36,336)	(\$41,984)	(\$48,442)	(\$17,526)	(\$49,554)	(\$34,628)	(\$32,525)	(\$22,513)	\$13,323	\$107,665	\$219,554
Income tax expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,331	\$26,916	\$54,888
Net income/(loss) (GAAP)	(\$19,571)	(\$7,858)	(\$8,242)	(\$9,743)	(\$10,493)	(\$36,336)	(\$41,984)	(\$48,442)	(\$17,526)	(\$49,554)	(\$34,628)	(\$32,525)	(\$22,513)	\$9,992	\$80,749	\$164,665
EPS (GAAP, diluted)	(\$4.67)	(\$0.44)	(\$0.46)	(\$0.54)	(\$0.58)	(\$2.02)	(\$2.32)	(\$1.88)	(\$0.65)	(\$1.84)	(\$1.28)	(\$1.01)	(\$0.70)	\$0.31	\$2.49	\$5.06
Shares Outstanding (Basic)	4,652	17,946	17,971	17,996	18,021	17,984	18,121	25,721	25,821	25,921	26,021	31,121	31,221	31,321	31,421	31,521
Shares Outstanding (Diluted)	5,673	18,968	18,993	19,018	19,043	19,005	19,143	26,743	26,843	26,943	27,043	32,143	32,243	32,343	32,443	32,543

Source: Company reports, Form 10-K dated March 27, 2015, and Wells Fargo Securities, LLC estimates

Note: All revenues are probability-weighted.

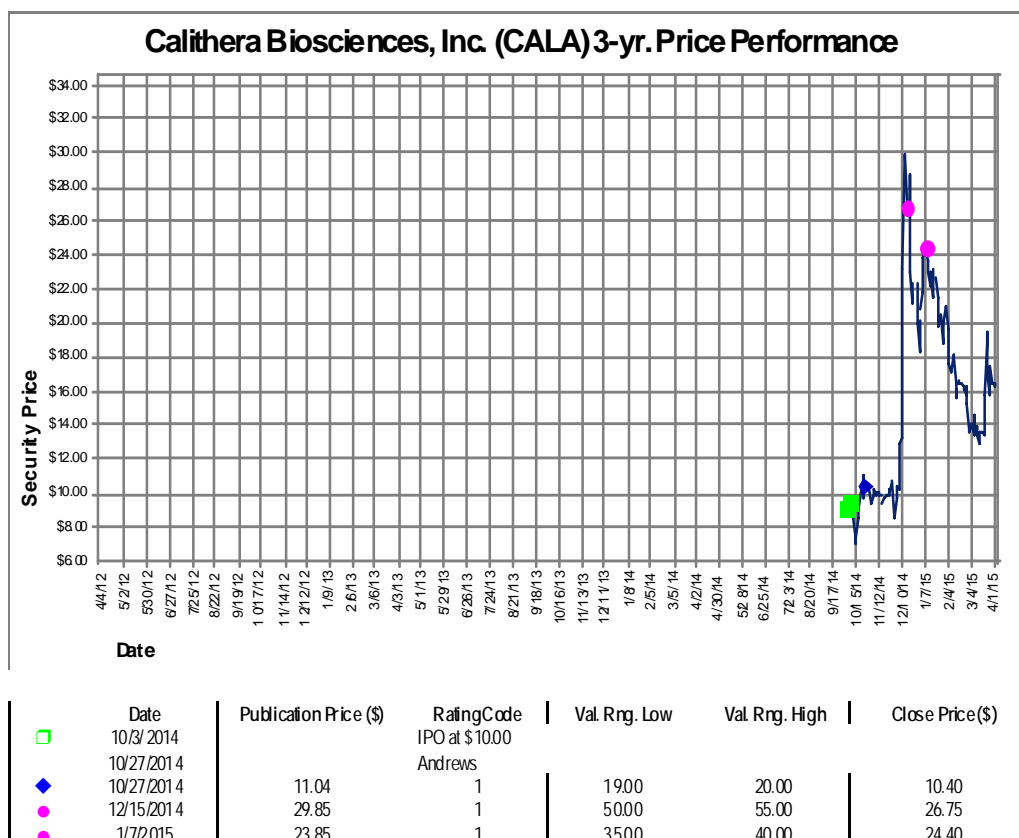
Exhibit 5. Calithera's Pipeline Chart

Calithera Biosciences, Inc. Pipeline Summary		
Candidate	Indication	Stage And Summary
CB-839	Triple Negative Breast Cancer (TNBC)	Phase I - Study CX-839-001 will enroll up to 100 patients with TNBC and other solid tumors, such as Non-Small Cell Lung Cancer. The Phase I(b) portion of the study in TNBC will assess the combination of CB-839 with paclitaxel based on preclinical studies which suggest synergistic activity. Preclinical data also suggest TNBC is more sensitive to CB-839 as opposed to Estrogen receptor (ER) positive or HER2+ breast cancers. As part of the ongoing Ph. I study Calithera will collect tumor biopsies to assess glutaminase levels in order to confirm the pharmacodynamic results of its assay for glutaminase in platelets (a biomarker). These data may also help identify TNBC patients more likely to respond to CB-839.
	Renal Cell Carcinoma (RCC)	Phase I - Calithera will study CB-839 in combination with everolimus in RCC as part of the Ph. I(b) program. Afinitor (everolimus) is an inhibitor of mTOR, an enzyme downstream of PI3K/AKT pathway, which is involved in stimulating the glycolysis pathway.
	Multiple Myeloma (MM)	Phase I - The Ph. I study CX-839-002 will enroll up to 65 MM and NHL patients who have failed at least two prior therapies. Preclinical data suggest synergistic activity for CB-839 with lenalidomide and pomalidomide. The Ph. I(b) study will assess the combination of CB-839/pomalidomide/dexamethasone and CB-839/dexamethasone. MM could offer a faster path to market if FDA agrees to a CB-839/pomalidomide/dexamethasone vs. pomalidomide/dexamethasone Ph. II study where objective response rate (ORR) is the primary endpoint. Europe is likely to require a more traditional Ph. III study with progression free survival (PFS) or overall survival (OS) as the primary endpoint. Calithera has identified a (negative) biomarker (pyruvate carboxylase) for CB-839 in MM patients, which may predict response to therapy.
	Non-Hodgkin's Lymphoma (NHL)	Phase I - NHL patients with Waldenstrom's, Diffuse Large B-cell, and other NHL sub-types who are relapsed or refractory to two prior lines of therapy will be enrolled in the CX-839-002 study.
	Acute Myeloid Leukemia (AML)	Phase I - Study CX-839-003 will enroll up to 50 ALL and AML patients who have failed at least one prior therapy. Newly diagnosed patients 60 years or older can enroll if they are not candidates for stem-cell transplantation or are unfit for standard chemotherapy. AML patients with isocitrate dehydrogenase (IDH)1 and IDH2 driver mutations are allowed to enroll in the study. Unlike Agios' AG-221 which targets the mutant IDH2 protein (over-expressed in AML and gliomas) in order to stop cancer cell growth, CB-839 blocks creation of glutamate which is needed to generate alpha-ketoglutarate and its oncometabolite 2-HG, which is important for IDH2 cancer cell growth.
	Acute Lymphoblastic Leukemia (ALL)	
	Hereditary leiomyomatosis and renal cell cancer (HLRCC)	Phase I - Ten to fifteen percent of patients recruited into the CX-839-001 study will have TCA cycle enzyme driver mutations, characterized by loss of function gene mutations for fumarate hydratase (FH) and succinate dehydrogenase (SDH) or gain of function mutations for IDH. HLRCC is characterized by a loss of function in the FH enzyme which leads to accumulation of fumarate, which is downstream of glutamate within the TCA cycle. By inhibiting glutaminase, reactivation of the FH enzyme may lead to cancer cell death in patients with this rare cancer. Less than 1% of renal cell carcinoma patients have the HLRCC mutation.
	Gastrointestinal Stromal Tumors (GIST)	Phase I - GIST, paragangliomas, pheochromocytomas, and RCC are characterized by loss of function in the succinate dehydrogenase (SDH) enzyme, which leads to accumulation of succinate which is downstream of glutamate within the TCA cycle. Less than 15% of GIST patients have this mutation (~3,000 patients). The CX-839-001 protocol includes 10-15% of patients with these tumor types.
Arginase Inhibitor	Combination studies for solid tumors	Discovery - Preclinical studies suggest synergies may exist for CB-839 with various growth factor signaling pathway inhibitors of EGFR, Ras/Raf, and PI3K/mTOR in various solid tumors, such as RCC, NSCLC, and sarcomas. This is based on the fact that cancer cell metabolism is driven in part by oncogenic transformation and/or loss of tumor suppressor gene function, which results in increasing reliance of cancer cells on glutamine. As a result, blockade of signaling pathways and glutaminase may lead to increased efficacy in a number of tumor types and blood cancers.
	Solid tumors	Preclinical - Potential proof-of-concept for inhibition of arginase has been demonstrated by Indoleamine 2, 3 dioxygenase inhibitors, which antagonize the IDO enzyme, which depletes tryptophan, an amino acid important in T-cell activation. Myeloid-derived suppressor cells secrete arginase which down-regulates arginine, an amino acid important in activation, growth, and survival of cancer-fighting cytotoxic T cells. Arginine depletion has been observed in RCC, AML, breast, and pancreatic cancers. Inhibition of arginase may allow for up-regulation of arginine and restore activity of the body's cytotoxic T cells. In December 2014, Calithera in-licensed a portfolio of arginase inhibitors from Mars Symbioscience, which will complement its own in-house program.
Hexokinase Inhibitor	Cancers	Preclinical - In March 2015 Calithera licensed TransTech Pharma's HK II inhibitors. HK I and II can associate on the outer surface of the external membrane of mitochondria and HK II is the 1st enzyme involved in converting glucose to metabolites important for cancer cell growth/survival. HK II is over-expressed in a number of cancers and with levels up to 200x higher than non-cancerous tissues. Initially Calithera plans to develop an HK II inhibitor as monotherapy but longer-term may develop it in combination with CB-839.

Source: Company reports and Wells Fargo Securities, LLC estimates

Company Description:

Calithera Biosciences, Inc. (South San Francisco, California) is engaged in the research, development, and commercialization of small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancers. Calithera's lead program is CB-839, an oral inhibitor of the glutaminase enzyme, and is currently in three Phase I studies and plans to initiate a Ph. II program in triple-negative breast cancer and multiple myeloma in early 2016. Behind CB-839 Calithera has a pre-clinical arginase inhibitor compound which is expected to enter human studies in early 2016 and a preclinical hexokinase II inhibitor program, which it licensed from TransTech in March 2015.

Required Disclosures

Source: Wells Fargo Securities, LLC estimates and Reuters data

Symbol Key		Rating Code Key	
Red Triangle	Rating Downgrade	1	Outperform/Buy
Green Triangle	Rating Upgrade	2	Market Perform/Hold
Pink Circle	Valuation Range Change	3	Underperform/Sell
Blue Diamond	Initiation, Resumption, Drop or Suspend	SR	Suspended
Blue Square	Analyst Change	NR	Not Rated
Green Square	Split Adjustment	NE	No Estimate

Additional Information Available Upon Request

I certify that:

- 1) All views expressed in this research report accurately reflect my personal views about any and all of the subject securities or issuers discussed; and
- 2) No part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by me in this research report.

- Wells Fargo Securities, LLC maintains a market in the common stock of Calithera Biosciences, Inc.
- Wells Fargo Securities, LLC or its affiliates managed or co-managed a public offering of securities for Calithera Biosciences, Inc.

Biotechnology

within the past 12 months.

- Wells Fargo Securities, LLC or its affiliates received compensation for investment banking services from Calithera Biosciences, Inc. in the past 12 months.
- Calithera Biosciences, Inc. currently is, or during the 12-month period preceding the date of distribution of the research report was, a client of Wells Fargo Securities, LLC. Wells Fargo Securities, LLC provided investment banking services to Calithera Biosciences, Inc.

CALA: Key risks include clinical trial failure, a safety signal for CB-839, and financing risk.

Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC's research analysts receive compensation that is based upon and impacted by the overall profitability and revenue of the firm, which includes, but is not limited to investment banking revenue.

STOCK RATING

1=Outperform: The stock appears attractively valued, and we believe the stock's total return will exceed that of the market over the next 12 months. BUY

2=Market Perform: The stock appears appropriately valued, and we believe the stock's total return will be in line with the market over the next 12 months. HOLD

3=Underperform: The stock appears overvalued, and we believe the stock's total return will be below the market over the next 12 months. SELL

SECTOR RATING

O=Overweight: Industry expected to outperform the relevant broad market benchmark over the next 12 months.

M=Market Weight: Industry expected to perform in-line with the relevant broad market benchmark over the next 12 months.

U=Underweight: Industry expected to underperform the relevant broad market benchmark over the next 12 months.

VOLATILITY RATING

V = A stock is defined as volatile if the stock price has fluctuated by +/-20% or greater in at least 8 of the past 24 months or if the analyst expects significant volatility. All IPO stocks are automatically rated volatile within the first 24 months of trading.

As of: May 7, 2015

43% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Outperform.

Wells Fargo Securities, LLC has provided investment banking services for 43% of its Equity Research Outperform-rated companies.

55% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Market Perform.

Wells Fargo Securities, LLC has provided investment banking services for 30% of its Equity Research Market Perform-rated companies.

2% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Underperform.

Wells Fargo Securities, LLC has provided investment banking services for 25% of its Equity Research Underperform-rated companies.

Important Disclosure for International Clients

EEA – The securities and related financial instruments described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited (“WFSIL”). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. For the purposes of Section 21 of the UK Financial Services and Markets Act 2000 (“the Act”), the content of this report has been approved by WFSIL a regulated person under the Act. WFSIL does not deal with retail clients as defined in the Markets in Financial Instruments Directive 2007. The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients.

Australia – Wells Fargo Securities, LLC is exempt from the requirements to hold an Australian financial services license in respect of the financial services it provides to wholesale clients in Australia. Wells Fargo Securities, LLC is regulated under U.S. laws which differ from Australian laws. Any offer or documentation provided to Australian recipients by Wells Fargo Securities, LLC in the course of providing the financial services will be prepared in accordance with the laws of the United States and not Australian laws.

Canada – This report is distributed in Canada by Wells Fargo Securities Canada, Ltd., a registered investment dealer in Canada and member of the Investment Industry Regulatory Organization of Canada (IIROC) and Canadian Investor Protection Fund (CIPF).

Hong Kong – This report is issued and distributed in Hong Kong by Wells Fargo Securities Asia Limited (“WFSAL”), a Hong Kong incorporated investment firm licensed and regulated by the Securities and Futures Commission of Hong Kong (“the SFC”) to carry on types 1, 4, 6 and 9 regulated activities (as defined in the Securities and Futures Ordinance (Cap. 571 of The Laws of Hong Kong), “the SFO”). This report is not intended for, and should not be relied on by, any person other than professional investors (as defined in the SFO). Any securities and related financial instruments described herein are not intended for sale, nor will be sold, to any person other than professional investors (as defined in the SFO). The author or authors of this report is or are not licensed by the SFC. Professional investors who receive this report should direct any queries regarding its contents to Mark Jones at WFSAL (email: wfsalresearch@wellsfargo.com).

Japan – This report is distributed in Japan by Wells Fargo Securities (Japan) Co., Ltd, registered with the Kanto Local Finance Bureau to conduct broking and dealing of type 1 and type 2 financial instruments and agency or intermediary service for entry into investment advisory or discretionary investment contracts. This report is intended for distribution only to professional investors (Tokutei Toushika) and is not intended for, and should not be relied upon by, ordinary customers (Ippan Toushika).

The ratings stated on the document are not provided by rating agencies registered with the Financial Services Agency of Japan (JFSA) but by group companies of JFSA-registered rating agencies. These group companies may include Moody's Investors Services Inc., Standard & Poor's Rating Services and/or Fitch Ratings. Any decisions to invest in securities or transactions should be made after reviewing policies and methodologies used for assigning credit ratings and assumptions, significance and limitations of the credit ratings stated on the respective rating agencies' websites.

About Wells Fargo Securities

Wells Fargo Securities is the trade name for the capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including but not limited to Wells Fargo Securities, LLC, a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission and a member of NYSE, FINRA, NFA and SIPC, Wells Fargo Institutional Securities, LLC, a member of FINRA and SIPC, Wells Fargo Prime Services, LLC, a member of FINRA, NFA and SIPC, Wells Fargo Securities Canada, Ltd., a member of IIROC and CIPF, Wells Fargo Bank, N.A. and Wells Fargo Securities International Limited, authorized and regulated by the Financial Conduct Authority.

This report is for your information only and is not an offer to sell, or a solicitation of an offer to buy, the securities or instruments named or described in this report. Interested parties are advised to contact the entity with which they deal, or the entity that provided this report to them, if they desire further information. The information in this report has been obtained or derived from sources believed by Wells Fargo Securities, LLC, to be reliable, but Wells Fargo Securities, LLC does not represent that this information is accurate or complete. Any opinions or estimates contained in this report represent the judgment of Wells Fargo Securities, LLC, at this time, and are subject to change without notice. For the purposes of the U.K. Financial Conduct Authority's rules, this report constitutes impartial investment research. Each of Wells Fargo Securities, LLC and Wells Fargo Securities International Limited is a separate legal entity and distinct from affiliated banks. Copyright © 2015 Wells Fargo Securities, LLC.

SECURITIES: NOT FDIC-INSURED/NOT BANK-GUARANTEED/MAY LOSE VALUE