Equity Research

Flash Comment

May

CALA-NASDAQ--Outperfo

Biotechnology

CALA: EHA Abstract Reports 1st Objective Response For CB-839 In AML

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

Sector Rating: Biotechnology, Market Weight

**Today abstracts for the European Hematology Association Meeting were released. Calithera provided its first meaningful up
8 3 9 i n A c u t e M y e l o i d L e u k e m i a (A M L) s i n c e t h e S e p t e m b e r 2 0 1
http://learningcenter.ehaweb.org/eha/2015/20th/99749/christopher.molineaux.phase.1.study.safety.and.tolerability.of.incre
f=010674p6m3e841.

**Consistent with the Ph. I dose-escalation solid tumor study, doses from 100mg-1,000mg t.i.d. have been administered in
and/or refractory AML patients (failed more than 1 prior therapy), as of March 2015.

**Clinical activity: 1) Calithera reported its 1st objective response with CB-839 monotherapy in a single patient who achieved
marrow response with incomplete recovery of blood counts (CRi). The dose wasn't noted in the abstract. 2) 33% disease s
(range: 4-10 CB-839 cycles). Recall in the ASCO abstract, 28% of advanced solid tumor patients achieved SD with respo
cancers. 3) Pharmacokinetic/pharmacodynamics (PK/PD): at 600, 800, 1,000mg t.i.d., 94%+ inhibition of glutaminase was
patients with active disease (up to 58% leukemic blast counts).

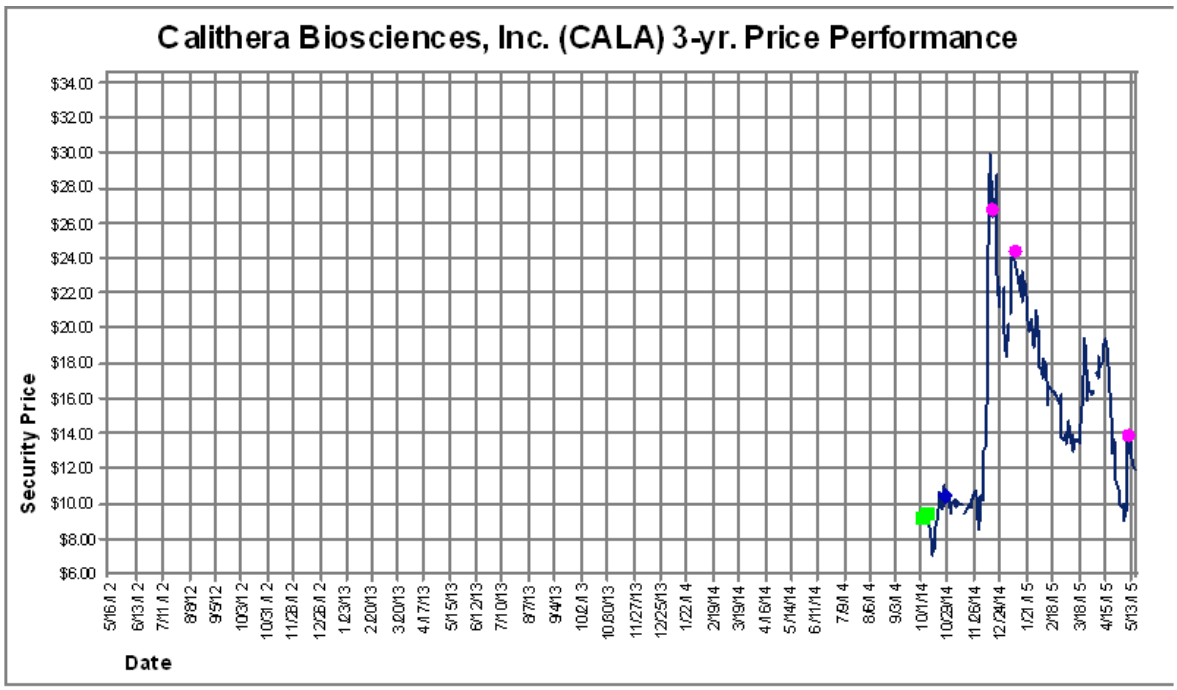
**Safety: consistent with the solid tumor ASCO abstract no clinically meaningful central nervous system adverse events
observed (a key issue which halted development of prior glutaminase inhibitors), no dose-limiting toxicities, limited cases
transaminases/bilirubin, and no Grade3+ treatment-related AEs in greater than 10% of patients.

**While Calithera ultimately plans to develop CB-839 in combination with various standard-of-care regimens and has emb
ambitious Ph. I(b) combination program (five studies planned/soon-to-launch in triple-negative breast, clear-cell renal-ce
myeloma, and AML), we believe reporting of its first objective response in a difficult population is an important clinical m
Calithera as it demonstrates CB-839 is an active compound, validates Calithera's broad preclinical development program/s
targeting of cancer cell metabolism as a therapeutic approach, and increases the potential for improved efficacy as part
combinations.

**BOTTOM LINE: While early, CB-839's overall profile in solid tumor/blood cancers continues to positively evolve suggestin
clinical activity with a tolerable safety profile. Following weakness in CALA shares post-AACR we continue to see Calither
valued longer-term.

Calithera Biosciences, Inc. (CALA-NASDAQ)
Price as of 5/20/2015: $10.85
FY 15 EPS: $-2.02
FY 16 EPS: $-2.32
Shares Out.: 17.9 MM
Market Cap.: $194.21 MM

DISCLOSURE APPENDIX
Required Disclosures



	Date	Publication Price ($)	Rating Code	Val. Rng. Low	Val. Rng. High	Close Price ($)
□	10/3/2014		IPO at $10.00			
	10/27/2014		Andrews			
◆	10/27/2014	11.04	1	19.00	20.00	10.40
●	12/15/2014	29.85	1	50.00	55.00	26.75
●	1/7/2015	23.85	1	35.00	40.00	24.40
●	5/8/2015	9.52	1	27.00	30.00	13.87

Source: Wells Fargo Securities, LLC estimates and Reuters data

Symbol Key

▼	Rating Downgrade	◆	Initiation, Resumption, Drop or Suspend
▲	Rating Upgrade	■	Analyst Change
●	Valuation Range Change	□	Split Adjustment

Rating Code Key

1	Outperform/Buy	SR	Suspended
2	Market Perform/Hold	NR	Not Rated
3	Underperform/Sell	NE	No Estimate

Additional Information Available Upon Request

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

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