August 7, 2014

OUTPERFORM

Reason for report:

FLASH NOTE

Michael Schmidt, Ph.D.
(617) 918-4588
Michael.Schmidt@Leerink.com

Jonathan Chang, Ph.D.
(617) 918-4015
Jonathan.Chang@Leerink.com

LEERINK

KARYOPHARM THERAPEUTICS, INC.

2Q14 - Clinical Program for Selinexor Broadening Further

• **Bottom Line:** This morning, KPTI reported financial results for 2Q14 and updated clinical development plans for its lead product candidate Selinexor. A conference call will be hosted today at 4:30 p.m. EDT. KPTI provided new financial guidance following completion of a secondary offering in July. KPTI also provided updates to its registration-directed DLBCL "SADAL" trial design following the FDA meeting this July and has also moved Selinexor development into earlier lines of diffused large B-cell lymphoma (DLBCL) therapy. We include an updated table (see page 4) of ongoing or planned clinical trials for Selinexor.

• **New financial guidance following secondary offering this July.** KPTI now expects to end 2014 with over $200M in cash, sufficient to fund the company into 2H17. In 2Q14, net loss was ($16.4M) vs. our estimate of ($14.8M) (see table, page 3).

• **Updates to registration-directed DLBCL "SADAL" trial design following FDA meeting this July.** Based on FDA feedback, KPTI has modified the planned DLBCL registration-directed study design to now include 200 patients with DLBCL after 2 to 4 prior lines of therapy, which will be randomized 1:1 to low (60mg) versus high (100mg) flat doses of Selinexor given twice weekly (BIW). According to KPTI, the FDA suggested inclusion of the lower dose arm (corresponding to ~35mg/m2 BIW) given that many patients benefitted from Selinexor at lower dose levels in Phase I. Overall response rate (ORR) is the primary endpoint, and at least 50% of patients on each arm will have DLBCL of the Germinal-Center B Cell (GCB) subtype, which is less responsive to certain anti-lymphoma therapies. All patients will also receive 8-12mg of dexamethasone as supportive care. The study is expected to begin in 4Q14. KPTI believes the high 100mg flat dose corresponds roughly to the previously planned 60mg/m2 BIW dose. Recall at ASCO, KPTI presented plans for a single arm trial in 150 >/= 3rd line patients treated at 60mg/m2 BIW.

• **KPTI also announced that it has moved Selinexor development into earlier lines of DLBCL therapy,** where Selinexor regimens could be compared with current standards. In particular, the company has begun enrollment of patients with heavily pretreated non-Hodgkin lymphomas (NHL) into a Phase 1 cohort of Selinexor in combination with rituximab. Karyopharm anticipates that Selinexor-rituximab could be an active regimen against aggressive lymphomas and might be used in future randomized trials. Additional combinations with various chemotherapy and chemo-immunotherapy combinations are planned.

• **Other trial updates:** KPTI initiated the randomized Phase 2 SOPRA study of Selinexor in elderly patients with relapsed or refractory acute myeloid leukemia (rrAML) who are ineligible for intensive chemotherapy and/or transplantation. A new investigator-sponsored trial (IST) will be evaluating the combination of Selinexor with low-dose cytarabine (Ara-C), in newly diagnosed elderly patients with AML or high-risk myelodysplastic syndrome (MDS) who are not eligible for intensive chemotherapy. This combination arm will be compared with a separate arm of low-dose Ara-C alone. We also noted two new planned ISTs in multiple myeloma -- one

Key Stats:	**(NASDAQ:KPTI)**
S&P 600 Health Care Index:	**1,286.06**
Price:	**$36.31**
52 Week High:	$47.98
52 Week Low:	$15.50
Shares Outstanding (mil):	29.7
Market Capitalization (mil):	$1,078.4

Please refer to pages 5 - 7 for Important Disclosures, Price Charts and Analyst Certification.

evaluating Selinexor in combination with carfilzomib and dexamethasone, the other in combination with pegylated liposomal doxorubicin. Two additional new ISTs will evaluate Selinexor in pancreatic cancer and in neoadjuvant rectal cancer. 20 Selinexor trials are now ongoing or being planned (see table, page 4).

KPTI 2Q14 Results					
2Q14 ($M, except EPS)	**Consensus 2Q14**	**Leerink 2Q14E**	**2Q14A**	***Difference (Consensus)***	***Difference (Leerink)***
Contract and grant revenue	0.2	0.2	0.0	(0.2)	(0.2)
Total revenue	**0.2**	**0.2**	**0.0**	**(0.2)**	**(0.2)**
R&D expense	11	12	13	2	1
SG&A expense	3	3	3	0	0
Total operating expenses	14	15	16	2	1
Operating income (loss)	(14.7)	(14.8)	(16.4)	(1.7)	(1.6)
Total other income (expense)	0.0	0.0	0.0	0.0	0.0
EBT	(13.0)	(14.8)	(16.4)	(3.4)	(1.6)
Income Tax expense	0	0	0	0	0
Net income (loss)	**(14.7)**	**(14.8)**	**(16.4)**	**(1.7)**	**(1.6)**
EPS	(0.49)	(0.50)	(0.55)	(0.1)	(0.05)
Common shares outstanding	30	30	30	(0.3)	0

BS & CF	**Consensus 2Q14**	**Leerink 2Q14E**	**2Q14A**	**Difference (Consensus)**	**Difference (Leerink)**
Cash & equivalents		131	132		1
Debt		0	0		0

Source: Leerink Partners Estimates and Company Filings

Selinexor Clinical Trials Overview							
Phase	**Indication**	**Treatment**	**Sponsor**	**n =**	**Primary Endpoint**	**ID**	**Status**
II	Relapsed AML (SOPRA)	Selinexor 55mg/m^2 vs. physician's choice	KPTI	150	OS	NCT02088541	Ongoing
II/III	DLBCL (SADAL)	Selinexor 100mg vs. 60mg + low-dose dex	KPTI	200	ORR		Planned 3Q14
II/III	Richter's Syndrome (SIRRT)	Selinexor 60-120mg	KPTI	50	ORR	NCT02138786	Planned 3Q14
II	Ovarian, endometrial, cervical carcinoma (SIGN)	Selinexor 50mg/m^2	KPTI	63	DCR	NCT02025985	Ongoing
II	Recurrent glioblastoma after radiation/TMZ (KING)	Selinexor	KPTI	30	6 month PFS	NCT01986348	Ongoing
II	SCC of head and neck, lung, or esophagus	Selinexor	KPTI				Planned 3Q14
II	Metastatic Castrate Resistant Prostate Cancer (SHIP)	Selinexor 50mg/m^2	KPTI	50	CBR	NCT02146833	Ongoing
I	Effects of food and formulation in sarcoma	Selinexor 15mg/m^2	KPTI	20	PK	NCT01896505	Ongoing
I	Solid tumors	Selinexor	KPTI	90	safety	NCT01607905	Ongoing
I	Hematological malignancies	Selinexor	KPTI	249	safety	NCT01607892	Ongoing
II	Newly diagnosed eldery AML or MDS	Selinexor + cytarabine (Ara-C) vs. Ara-C	IST				Planned
I	Melanoma	Selinexor	IST	20	safety	NCT02120222	Ongoing
I	Relapsed childhood ALL and AML	Selinexor	IST	28	safety, MTD	NCT02091245	Ongoing
I	Solid tumors (Asian patients)	Selinexor 40mg/m^2	IST	30	safety	NCT02078349	Ongoing
I	Relapsed/refractory AML	Selinexor + decitabine	IST	42	safety, MTD	NCT02093403	Ongoing
I	Salivary gland cancers	Selinexor 30mg/m^2	IST	30	PR, CR	NCT02069730	Ongoing
I/II	Relapsed or Refractory Multiple Myeloma	Selinexor + Pegylated Liposomal Doxorubicin	IST	47	MTD, ORR	NCT02186834	Planned 3Q14
I/II	Metastatic Pancreatic Cancer	Selinexor + Gemcitabine + Paclitaxel Nanoparticle	IST	43	MTD, ORR, PFS	NCT02178436	Planned 3Q14
I	Neoadjuvant Advanced Rectal Cancer	Selinexor + chemoradiation	IST	28	safety	NCT02137356	Planned 3Q14
I	Relapsed or Refractory Multiple Myeloma	Selinexor+ Carfilzomib + Dexamethasone	IST	48	MTD, ORR, safety	NCT02199665	Planned 3Q14

Source: clinicaltrials.gov, KPTI

Disclosures Appendix

Analyst Certification

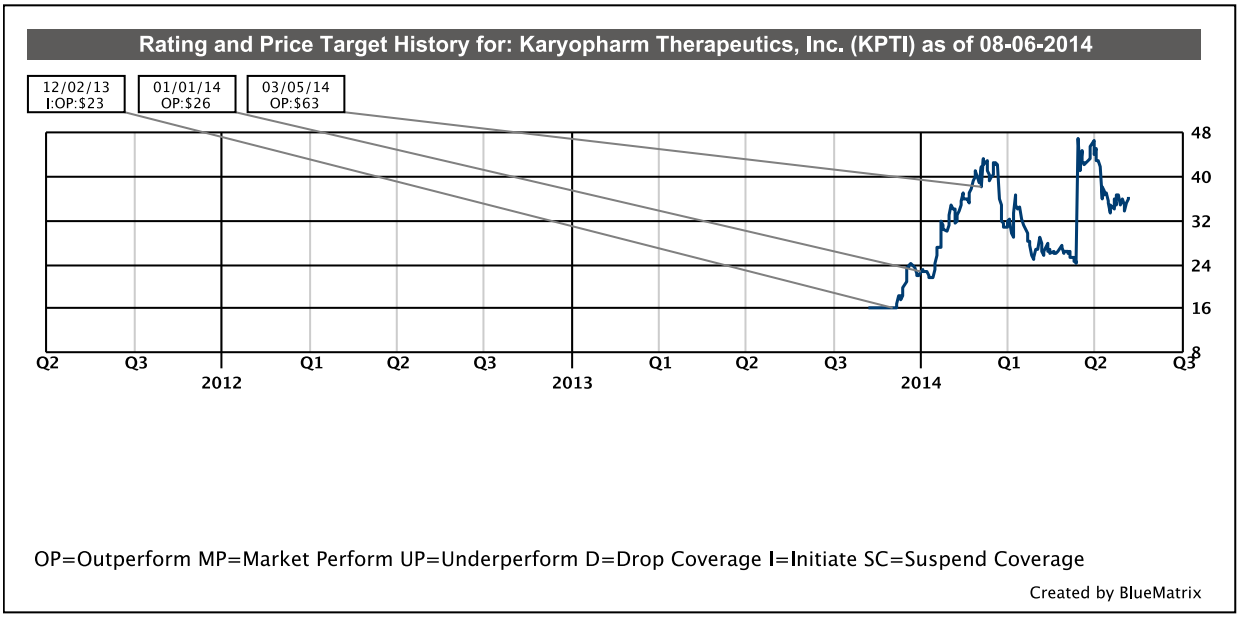
I, Michael Schmidt, Ph.D., certify that the views expressed in this report accurately reflect my views and that no part of my compensation was, is, or will be directly related to the specific recommendation or views contained in this report.

Valuation

Our price target for KPTI is $63/share. Our valuation is based on a discounted cash flow (DCF) analysis. We apply a 12% discount rate to 35% probability of success (POS) weighted Selinexor cash flows derived from three relapsed/ refractory hematological cancer indications (AML, DLBCL, and MM), 20% POS-weighted sales in Richter's syndrome and 10% POS-weighted sales in solid tumor indications. Our valuation uses a terminal value derived by applying a 6x multiple to 2025E Selinexor revenue, discounted back by 11 periods. The 6x revenue multiple is in line with the mid-cap biotech industry average. Based on our DCF analysis, we attribute $60/share to Selinexor and the remainder to expected cash in one year.

Risks to Valuation

Early stage biotech companies such as KPTI face significant clinical and regulatory development risk, as well as commercial risks. KPTI also faces execution risk and financial risk. We estimate that KPTI's current cash will be sufficient to fund into early 2016, and the company may have additional financing needs before turning cash flow positive. The vast majority of our KPTI valuation is based on Selinexor, the company's only clinical stage product candidate, so potential setbacks due to possible safety and/or efficacy related issues of Selinexor could have a significant impact on our valuation.



Distribution of Ratings/Investment Banking Services (IB) as of 06/30/14				
			IB Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [OP]	138	69.00	50	36.20
HOLD [MP]	62	31.00	2	3.20
SELL [UP]	0	0.00	0	0.00

Explanation of Ratings

Outperform (Buy): We expect this stock to outperform its benchmark over the next 12 months.

Market Perform (Hold/Neutral): We expect this stock to perform in line with its benchmark over the next 12 months.

Underperform (Sell): We expect this stock to underperform its benchmark over the next 12 months.The degree of outperformance or underperformance required to warrant an Outperform or an Underperform rating should be commensurate with the risk profile of the company.

For the purposes of these definitions the relevant benchmark will be the S&P 600® Health Care Index for issuers with a market capitalization of less than $2 billion and the S&P 500® Health Care Index for issuers with a market capitalization over $2 billion.

Important Disclosures

This information (including, but not limited to, prices, quotes and statistics) has been obtained from sources that we believe reliable, but we do not represent that it is accurate or complete and it should not be relied upon as such. All information is subject to change without notice. This is provided for information purposes only and should not be regarded as an offer to sell or as a solicitation of an offer to buy any product to which this information relates. The Firm, its officers, directors, employees, proprietary accounts and affiliates may have a position, long or short, in the securities referred to in this report, and/or other related securities, and from time to time may increase or decrease the position or express a view that is contrary to that contained in this report. The Firm's salespeople, traders and other professionals may provide oral or written market commentary or trading strategies that are contrary to opinions expressed in this report. The Firm's proprietary accounts may make investment decisions that are inconsistent with the opinions expressed in this report. The past performance of securities does not guarantee or predict future performance. Transaction strategies described herein may not be suitable for all investors. Additional information is available upon request by contacting the Editorial Department at One Federal Street, 37th Floor, Boston, MA 02110.

Like all Firm employees, analysts receive compensation that is impacted by, among other factors, overall firm profitability, which includes revenues from, among other business units, Institutional Equities, and Investment Banking. Analysts, however, are not compensated for a specific investment banking services transaction.

MEDACorp is a network of healthcare professionals, attorneys, physicians, key opinion leaders and other specialists accessed by Leerink and it provides information used by its analysts in preparing research.

In the past 12 months, the Firm has received compensation for providing investment banking services to Karyopharm Therapeutics, Inc. .

Leerink Partners LLC makes a market in Karyopharm Therapeutics, Inc.

Leerink Partners LLC has acted as the manager for a public offering of Karyopharm Therapeutics, Inc. in the past 12 months.

Leerink Partners LLC Equity Research

Director of Equity Research	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
Associate Director of Research	**Alice C. Avanian, CFA**	(617) 918-4544	alice.avanian@leerink.com
Healthcare Strategy	**John L. Sullivan, CFA**	(617) 918-4875	john.sullivan@leerink.com
	Alice C. Avanian, CFA	(617) 918-4544	alice.avanian@leerink.com
Biotechnology	**Howard Liang, Ph.D.**	(617) 918-4857	howard.liang@leerink.com
	Joseph P. Schwartz	(617) 918-4575	joseph.schwartz@leerink.com
	Michael Schmidt, Ph.D.	(617) 918-4588	michael.schmidt@leerink.com
	Gena Wang, Ph.D., CFA	(212) 277-6073	gena.wang@leerink.com
	Jonathan Chang, Ph.D.	(617) 918-4015	jonathan.chang@leerink.com
	Paul Matteis	(617) 918-4585	paul.matteis@leerink.com
	Richard Goss	(617) 918-4059	richard.goss@leerink.com
Life Science Tools	**Dan Leonard**	(212) 277-6116	dan.leonard@leerink.com
and Diagnostics	Justin Bowers, CFA	(212) 277-6066	justin.bowers@leerink.com
Pharmaceuticals/Major	**Seamus Fernandez**	(617) 918-4011	seamus.fernandez@leerink.com
	Ario Arabi	(617) 918-4568	ario.arabi@leerink.com
	Aneesh Kapur	(617) 918-4576	aneesh.kapur@leerink.com
Specialty Pharmaceuticals	**Jason M. Gerberry, JD**	(617) 918-4549	jason.gerberry@leerink.com
Medical Devices, Cardiology	**Danielle Antalffy**	(212) 277-6044	danielle.antalffy@leerink.com
	Puneet Souda	(212) 277-6091	puneet.souda@leerink.com
& Orthopedics	**Richard Newitter**	(212) 277-6088	richard.newitter@leerink.com
	Ravi Misra	(212) 277-6049	ravi.misra@leerink.com
Healthcare Services	**Ana Gupte, Ph.D.**	(212) 277-6040	ana.gupte@leerink.com
Healthcare Technology	**David Larsen, CFA**	(617) 918-4502	david.larsen@leerink.com
& Distribution	Christopher Abbott	(617) 918-4010	chris.abbott@leerink.com
Sr. Editor/Supervisory Analyst	**Mary Ellen Eagan, CFA**	(617) 918-4837	maryellen.eagan@leerink.com
Supervisory Analysts	Robert Egan		bob.egan@leerink.com
	Amy N. Sonne		amy.sonne@leerink.com
Editorial	Cristina Diaz-Dickson	(617) 918-4548	cristina.diaz-dickson@leerink.com
Research Assistant	Carmen Augustine	(212) 277-6012	carmen.augustine@leerink.com

New York
299 Park Avenue, 21st floor
New York, NY 10171
(888) 778-1653

Boston
One Federal Street, 37th Floor
Boston, MA 02110
(800) 808-7525

San Francisco
201 Spear Street, 16th Floor
San Francisco, CA 94105
(800) 778-1164