August 8, 2014

OUTPERFORM

Reason for report:

EARNINGS

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LEERINK

KARYOPHARM THERAPEUTICS, INC.

2Q14 Recap – Updating Model; Next Update Likely at ESMO

• **Bottom Line:** We are updating our estimates following KPTI's earnings release and conference call. We are also including an overview of ongoing or planned trials for Selinexor. With over 400 patients treated to date, KPTI is continuing to drive an aggressive and broad global development program forward. Reiterate Outperform rating and adjusting PT to $60 from $63 on dilution. Reiterate OP.

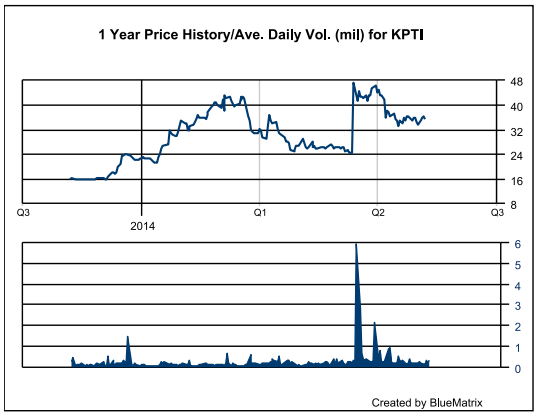
• **Updating model.** In 2Q14, net loss was ($16.4M) vs. our estimate of ($14.8M). Following completion of a secondary offering in July, KPTI now expects to end 2014 with over $200M in cash, sufficient to fund the company into 2H17. We are adjusting our PT to account for the financing.

• **Selinexor advancing in liquid tumors.** In acute myeloid leukemia (AML), KPTI initiated the registration-directed SOPRA trial. Overall survival (OS) data are expected in mid-16. A new investigator sponsored trial (IST) in newly diagnosed AML or myelodysplastic syndrome (MDS) in combination with cytarabine will launch near term. For lymphoma, KPTI will launch the registration-directed SADAL DLBCL trial in 4Q and the Richter's syndrome study (SIRRT) in 3Q. Both will have data in 2016 as well. KPTI will pursue dev't of selinexor in earlier lines of therapy in diffused large B-cell lymphoma (DLBCL). A Phase I arm in combination with rituximab has been launched. Registration plans for multiple myeloma (MM) are evolving, likely in a combination setting. A new IST of selinexor in combination w/ carfilzomib and dex will launch in 3Q. Additional studies in MM are expected to launch soon, and will likely involve combination with IMIDs as well. For T-cell lymphoma (TCL), a registration-directed Phase II trial will launch in 1H15.

• **Decision on first registration study for solid tumors expected by year-end 2014.** KPTI initiated the Phase II trial in patients with advanced gynecologic malignancies in 2Q (SIGN). Phase II trials in glioblastoma (KING) and prostate cancer (CRPC, [SHIP]) have been launched. We also found four additional IST combination trials listed on clinicaltrials.gov, including rectal and pancreatic cancer. A single agent squamous cell cancer Phase II trial will launch in 3Q.

• **Next up:** We expect next selinexor updates potentially at ESMO, September 26-30, and at ASH, December 6-9. ESMO abstracts will be released on September 17th. We believe data updates at ESMO and/or ASH could include updates on the two large Phase I studies in hematological cancers and solid tumors, potentially including additional data from the MM Dex combination trial initially presented at EHA, and potentially first data from the AML study of selinexor in combination with Dacogen.

Key Stats:	**(NASDAQ:KPTI)**
S&P 600 Health Care Index:	**1,277.55**
Price:	**$35.48**
Price Target:	$60.00 from $63.00
Methodology:	DCF, 12% discount rate
52 Week High:	$47.98
52 Week Low:	$15.50
Shares Outstanding (mil):	29.7
Market Capitalization (mil):	$1,053.8
Book Value/Share:	$5.34
Cash Per Share:	$4.88
Dividend (ann):	$0.00
Dividend Yield:	0.0%
Est LT EPS Growth:	NA



Dec Yr	1Q	2Q	3Q	4Q	FY Rev	1Q	2Q	3Q	4Q	FY EPS	PE
2013A	**--**	**--**	**0.0**	**$0.2**	**$0.4**	**--**	**--**	**($3.66)**	**($1.11)**	**($5.59)**	**NM**
2014E - New	**$0.2A**	**0.0A**	**0.0**	**0.0**	**$0.2**	**($0.46)A**	**($0.55)A**	**($0.61)**	**($0.68)**	**($2.31)**	**NM**
2014E - Old	$0.2A	$0.2	$0.2	$0.2	$0.7	($0.46)A	($0.50)	($0.53)	($0.57)	($2.06)	NM
2015E - New	**--**	**--**	**--**	**--**	**$1.0**	**--**	**--**	**--**	**--**	**($2.32)**	**NM**
2015E - Old	--	--	--	--	$1.0	--	--	--	--	($2.49)	NM

Source: Company Information and Leerink Partners LLC Research
Revenues in $MM.
GAAP EPS.

Please refer to pages 7 - 9 for Important Disclosures, Price Charts and Analyst Certification.

INVESTMENT THESIS

Karyopharm Therapeutics (KPTI) is a biotech company focused on developing small molecule cancer drugs called “Selective Inhibitors of Nuclear Export” (SINE), which based on our checks with MEDACorp KOLs are an exciting new class of oral drugs. The company’s clinical stage product Selinexor (KPT-330) is a orally bioavailable small molecule inhibitor of XPO1/CRM1 and was discovered by KPTI, which has worldwide rights to the product. Selinexor is a first-in-class agent with a new mechanism of action: XPO1 mediates nuclear export of tumor suppressor proteins, which then cannot promote cell death (apoptosis) in cancer cells anymore. Inhibition of XPO1 with KPT-330 restores tumor-suppressor activity in the nucleus, which drives cancer cells into apoptosis. Selinexor has completed Phase I dose-escalation trials, and based on our due diligence, we believe the drug is active in a broad range of cancers. We believe that, driven by positive data readouts, KPTI shares will appreciate in value as the probability of success for Selinexor increases in currently tested indications or as activity in new indications becomes evident. We also believe KPTI could be a takeover target.

VALUATION

Our price target for KPTI is $60/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 $54/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 2H17, 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.

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)**
Diluted 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

Indication	Phase	Treatment	Sponsor	n =	Primary Endpoint	ID	Status	Trial completion
AML								
Relapsed AML (SOPRA)	II	Selinexor 55mg/m^2 vs. physician's choice	KPTI	150	OS	NCT02088541	Ongoing	2Q16
Relapsed childhood ALL and AML	I	Selinexor	IST	28	safety, MTD	NCT02091245	Ongoing	mid-17
Relapsed/refractory AML	I	Selinexor + decitabine	IST	42	safety, MTD	NCT02093403	Ongoing	mid-17
Newly diagnosed eldery AML or MDS	II	Selinexor + cytarabine (Ara-C) vs. Ara-C	IST				Planned	
NHL								
DLBCL (SADAL)	II/III	Selinexor 100mg vs. 60mg + low-dose dex	KPTI	200	ORR		Planned 4Q14	
Richter's Syndrome (SIRRT)	II/III	Selinexor 60-120mg	KPTI	50	ORR	NCT02138786	Planned 3Q14	1H16
MM								
Relapsed or Refractory Multiple Myeloma	I/II	Selinexor + Pegylated Liposomal Doxorubicin	IST	47	MTD, ORR	NCT02186834	Planned 3Q14	Early-16
Relapsed or Refractory Multiple Myeloma	I	Selinexor+ Carfilzomib + Dexamethasone	IST	48	MTD, ORR, safety	NCT02199665	Planned 3Q14	mid-16
Solid Tumors								
Metastatic Castrate Resistant Prostate Cancer (SHIP)	II	Selinexor 50mg/m^2	KPTI	50	CBR	NCT02146833	Ongoing	2H15
Ovarian, endometrial, cervical carcinoma (SIGN)	II	Selinexor 50mg/m^2	KPTI	63	DCR	NCT02025985	Ongoing	2H15
Recurrent glioblastoma after radiation/TMZ (KING)	II	Selinexor	KPTI	30	6 month PFS	NCT01986348	Ongoing	2H15
SCC of head and neck, lung, or esophagus	II	Selinexor	KPTI				Planned 3Q14	2H15
Effects of food and formulation in sarcoma	I	Selinexor 15mg/m^2	KPTI	20	PK	NCT01896505	Ongoing	2014
Solid tumors	I	Selinexor dose ranging	KPTI	90	safety	NCT01607905	Ongoing	2014
Melanoma	I	Selinexor	IST	20	safety	NCT02120222	Ongoing	mid-17
Solid tumors (Asian patients)	I	Selinexor 40mg/m^2	IST	30	safety	NCT02078349	Ongoing	Early-16
Salivary gland cancers	I	Selinexor 30mg/m^2	IST	30	PR, CR	NCT02069730	Ongoing	mid-19
Metastatic Pancreatic Cancer	I/II	Selinexor + Gemcitabine + Paclitaxel Nanoparticle	IST	43	MTD, ORR, PFS	NCT02178436	Planned 3Q14	mid-15
Neoadjuvant Advanced Rectal Cancer	I	Selinexor + chemoradiation	IST	28	safety	NCT02137356	Planned 3Q14	mid-17
Other								
Hematological malignancies	I	Selinexor dose ranging	KPTI	249	safety	NCT01607892	Ongoing	2014
T Cell Lymphoma	II	Selinexor	KPTI				Planned 1H15	2017

Source: clinicaltrials.gov, KPTI

KPTI P&L (in $MM)	2011	2012	1H13	2Q13	3Q13	4Q13	2013	1Q14	2Q14	3Q14E	4Q14E	2014E	2015E
Contract and grant revenue	0.2	0.6	0.2	0.1	-	0.2	0.4	0.2	0.0	0.0	0.0	0.2	1.0
Selinexor US sales (p/w)	-	-	-	-	-	-	-	-	-	-	-	-	-
Selinexor EU royalty (p/w)	-	-	-	-	-	-	-	-	-	-	-	-	-
Total revenue	**0.2**	**0.6**	**0.2**	**0.1**	**-**	**0.2**	**0.4**	**0.2**	**0.0**	**0.0**	**0.0**	**0.2**	**1.0**
COGS	-	-	-	-	-	-	-	-	-	-	-	-	-
R&D expense	8.6	14.1	5.0	6.1	7.7	15.7	28.5	11.0	13.2	16.0	18.0	58.1	60.0
SG&A expense	1.8	2.4	0.9	0.9	1.6	3.4	5.9	2.9	3.3	3.8	4.2	14.2	17.0
Total operating expenses	10.5	16.5	5.8	7.0	9.3	19.2	34.3	13.9	16.5	19.8	22.2	72.4	77.0
Operating income (loss)	(10.3)	(15.9)	(5.6)	(6.9)	(9.3)	(19.0)	(34.0)	(13.7)	(16.4)	(19.8)	(22.2)	(72.1)	(76.0)
Total other income (expense)	-	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	-
Income Tax expense	-	-	-	-	-	-	-	-	-	-	-	-	-
Net income (loss)	**(10.3)**	**(15.9)**	**(5.6)**	**(6.9)**	**(9.3)**	**(19.0)**	**(33.9)**	**(13.7)**	**(16.4)**	**(19.8)**	**(22.2)**	**(72.1)**	**(76.0)**
Common shares outstanding	1.1	1.8	2.2	2.4	2.5	17.2	6.1	29.6	29.7	32.6	32.7	31.1	32.7
Common shares outstanding (diluted)						20.5		32.3	32.3	35.2	35.3	33.8	35.3
Diluted EPS	(9.34)	(8.95)	(2.52)	(2.86)	(3.66)	(1.11)	(5.59)	(0.46)	(0.55)	(0.61)	(0.68)	(2.31)	(2.32)

KPTI BS & CFS (in $MM)	2011	2012	1H13	2Q13	3Q13	4Q13	2013	1Q14	2Q14	3Q14E	4Q14E	2014E	2015E
Cash & equivalents	6.5	0.4	0.8	17.7	52.9	156.0	156.0	144.9	132.3	227.7	208.1	208.1	138.3
Debt	-	-	-	-	-	-	-	-	-	-	-	-	-

Change in Cash	3.1	(6.1)	0.4	16.9	35.3	103.0	155.6	(11.1)	(12.6)	95.4	(19.6)	52.2	(69.8)
Cash from operations	**(8.5)**	**(15.5)**	**(5.2)**	**(6.2)**	**(8.9)**	**(10.1)**	**(30.3)**	**(10.6)**	**(11.9)**	**(16.8)**	**(18.8)**	**(58.1)**	**(69.8)**
Net income (loss)	(10.3)	(15.9)	(5.6)	(6.9)	(9.3)	(19.0)	(33.9)	(13.7)	(16.4)	(19.8)	(22.2)	(72.1)	(76.0)
Share based comp	0.0	0.7	0.2	0.2	1.3	2.0	3.8	2.8	3.9	3.0	3.3	13.0	6.2
D&A	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-	-	0.1	-
Other (Change in WC)	1.7	(0.4)	0.2	0.4	(0.9)	0.0	(0.3)	0.2	0.6	-	-	0.9	-
Cash from investing	**(0.4)**	**(0.1)**	**-**	**-**	**(0.0)**	**(0.0)**	**(0.1)**	**(0.5)**	**(0.3)**	**(0.3)**	**(0.3)**	**(1.5)**	**-**
CapEx	(0.4)	(0.1)	-	-	(0.0)	(0.0)	(0.1)	(0.1)	(0.3)	(0.3)	(0.3)	(1.1)	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	(0.4)	-	-	-	(0.4)	-
Cash from financing	**12.0**	**9.5**	**5.5**	**23.1**	**44.2**	**113.2**	**185.9**	**0.0**	**(0.4)**	**112.5**	**(0.4)**	**111.8**	**-**
Equity issue (buyback)	12.0	9.5	-	-	72.8	40.4	113.2	-	-	112.9	-	112.9	-
Debt issue (principal payment)	-	-	-	-	-	0.1	0.1	-	-	-	-	-	-
Other	-	-	5.5	23.1	(28.6)	72.7	72.7	0.0	(0.4)	(0.4)	(0.4)	(1.1)	-

Source: SEC Filings and Leerink Partners Estimates

KPTI Valuation

Year	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
P/W FCF	(72.1)	(76.0)	(89.0)	(121.2)	(91.5)	(12.7)	187.4	328.7	317.3	336.5	343.5	350.6
Periods	-	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50	9.50	10.50
DR	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
PWFCF	(36.0)	(71.8)	(75.1)	(91.3)	(61.6)	(7.6)	100.5	157.3	135.6	128.4	117.1	106.7
NPV	**1,810**											
NPV/sh	54											
Cash/share	6											
Total	**60**											

POS AML	35%
POS DLBCL	35%
POS MM	35%
POS Richter's syndrome	20%
Solid tumors	10%
Discount Rate	12%
Terminal Year	2025
Terminal sales multiple	6

**POS = probability of success*

Source: Leerink Partners estimates

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 $60/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 $54/share to Selinexor and the remainder to expected cash in one year.

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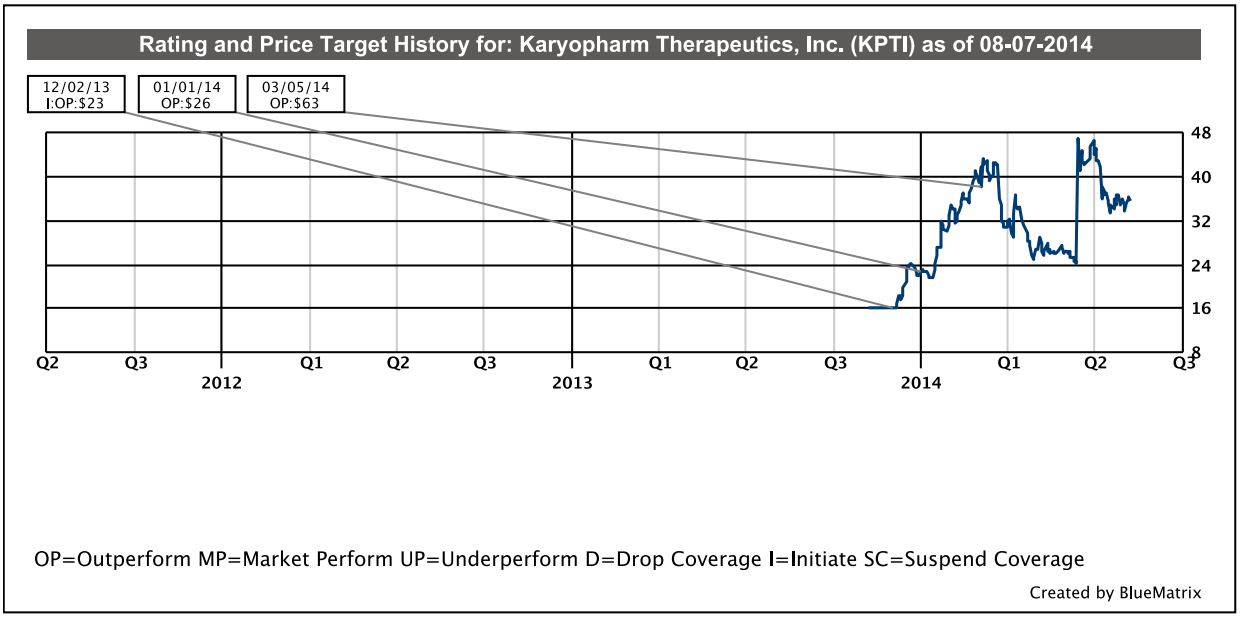

Distribution of Ratings/Investment Banking Services (IB) as of 06/30/14				
			IB Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [OP]	138	69.00	50	36.20
HOLD [MP]	62	31.00	2	3.20
SELL [UP]	0	0.00	0	0.00

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

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LEERINK

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.

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