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OUTPERFORM

Reason for report:

FLASH NOTE

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KARYOPHARM THERAPEUTICS, INC.

Incremental Selinexor Update at ESMO

• **Bottom Line:** KPTI provided updates to its Phase I Selinexor single agent program in solid tumors at ESMO this weekend. Three presentations were made available on the KPTI website for three solid tumor cohorts, including 11 evaluable patients with prostate cancer (mCRPC), 16 patients with squamous cell carcinoma of the head and neck (SCCHN), and 5 patients with ovarian cancer. One new patient with prostate cancer achieved stable disease (SD), and two additional SDs were achieved in the SCCHN cohort. We continue to believe that these data, showing tumor disease stabilization with shrinkage across late stage solid tumor patients, are encouraging and justify the ongoing and planned Phase II solid tumor trials. We believe that the stock is currently valued based on the probability-adjusted Selinexor opportunity in late stage hematological cancers only, and we see solid tumors as well as success in earlier lines of therapy in heme as sources of upside.

• **One additional stable disease in prostate cancer cohort.** KPTI presented data on 11 evaluable patients, of which 9 achieved SD and 2 had progressive disease (PD) (vs. 9 evaluable with 8 SD and 1 PD at ASCO). These patients had a median of 4 prior treatment regimens, with all patients having progressed from chemotherapy and 53% previously treated with Zytiga and 53% previously treated with Xtandi. Three patients with stable disease remain on study (430+ days, 290+ days, and 55+ days). Neither of the progressive disease patients showed a reduction in prostate-specific antigen (PSA), whereas 7 of the 9 stable disease patients showed a reduction in PSA. Time to progression ranged from 55 to 502 days. We believe the signal of activity looks promising and believe the two ongoing 50+ patient Phase II trials in chemotherapy-naive and chemotherapy-experienced patients should provide more insight into the clinical profile of the drug in mCRPC.

• **In SCCHN, 16 patients were evaluable, of which 11 achieved SD and 5 had PD** (vs. 14 evaluable with 9 SDs and 5 with PD at ASCO). Two patients with SD are still on study (500+ days and 140+ days). In ovarian cancer, 5 patients were evaluable, of which 1 achieved a partial response, 2 achieved stable disease, and 2 had progressive disease (identical to what was presented at ASCO). One patient (-046) with SD has now been on study for 386 days (vs. 320+ days at ASCO). The adverse event (AE) profile remains consistent with prior observations, where the most common AEs include fatigue, nausea, diarrhea, weight loss, and vomiting and were manageable with supportive care.

• **Phase II solid tumor trials progressing with new trials posted.** Currently ongoing solid tumor Phase II trials include the "SIGN" study in ovarian, endometrial, and cervical carcinomas (n=63), the "SHIP" study in metastatic castration resistant prostate cancer (n=50), the "KING" study in glioblastoma (n=30), as well as the Phase II trial of squamous cell carcinoma of the head and neck, lung, or esophagus (n=66). Additional Phase II studies planned to initiate before year-end include a trial in pre-chemotheapy mCRPC after Xtandi and/or Zytiga (n=54), a study in neoadjuvant rectal cancer with chemoradiation (n=28), and a study in pancreatic cancer with gemcitabine and nab-paclitaxel (n=43).

Key Stats:	**(NASDAQ:KPTI)**
S&P 600 Health Care Index:	**1,288.32**
Price:	**$42.10**
52 Week High:	$47.98
52 Week Low:	$15.50
Shares Outstanding (mil):	29.7
Market Capitalization (mil):	$1,250.4

Please refer to pages 4 - 6 for Important Disclosures, Price Charts and Analyst Certification.

• **KPTI will host a conference call Monday at 4:30pm ET to discuss data presented at ESMO.** Dial-in: (855) 437-4406 and refer to conference ID 11655910.

ASCO 2014 poster update Solid tumors							
Dose-escalation	**Evaluated**	**PR**		**SD**		**PD**	
SCCHN	14	0	0%	9	64%	5	36%
ovarian cancer	5	1	20%	2	40%	2	40%
prostate cancer	9	0	0%	8	89%	1	11%

Source: KPTI ASCO 2014 poster

ESMO 2014 presentations update Solid tumors							
Dose-escalation	**Evaluated**	**PR**		**SD**		**PD**	
SCCHN	16	0	0%	11	69%	5	31%
ovarian cancer	5	1	20%	2	40%	2	40%
prostate cancer	11	0	0%	9	82%	2	18%

Source: KPTI ESMO 2014 Presentations

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Disclosures Appendix

Analyst Certification

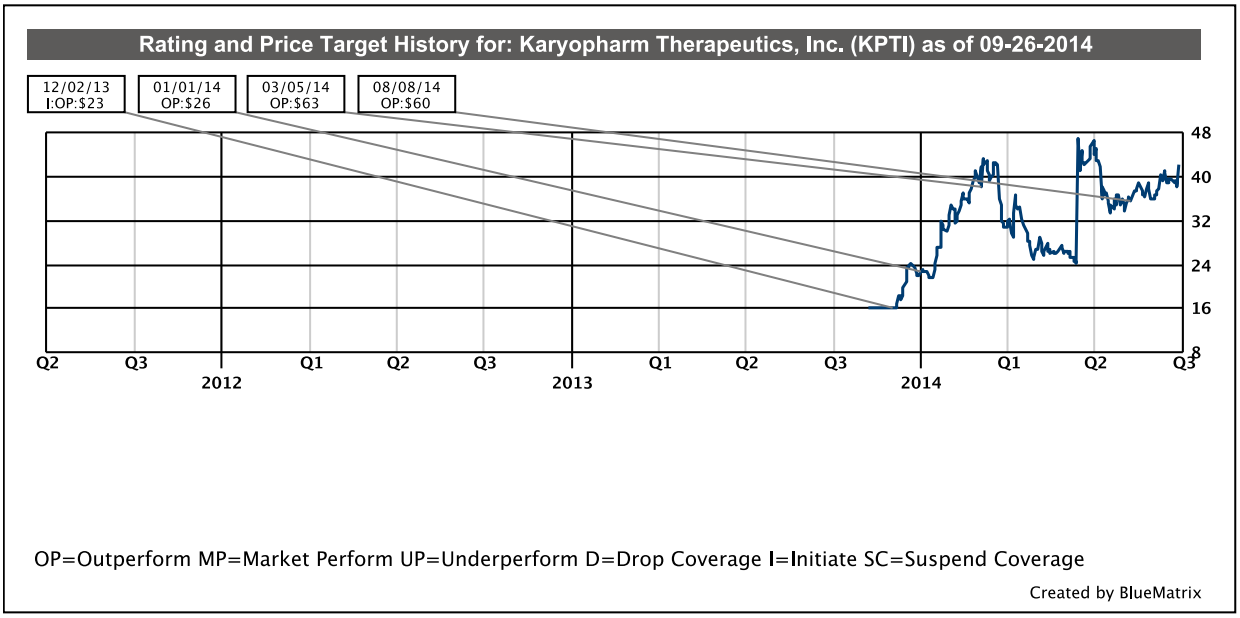
I, Michael Schmidt, Ph.D., certify that the views expressed in this report accurately reflect my views and that no part of my compensation was, is, or will be directly related to the specific recommendation or views contained in this report.

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.

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.



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.

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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.

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