Karyopharm Therapeutics Inc. (KPTI)

Highlights from Our Boston Biotech Day

MARKET DATA

Price	$37.98
52-Week Range:	$15.50 - $47.98
Shares Out. (M):	32.6
Market Cap ($M):	$1,238.1
Average Daily Vol. (000):	155.0
Cash (M):	$226
Cash/Share:	$6.93
Enterprise Value (M):	$1,041
Float (M):	14.6
LT Debt (M):	$0

Source: Thomson Reuters and JMP Securities LLC

FY DEC		2013A	2014E	2015E
Revenue ($M)	1Q	--	$0.2A	$0.0
	2Q	$0.4	$0.0A	$0.0
	3Q	$0.0	$0.0	$0.0
	4Q	$0.0	$0.0	$0.0
	FY	**$0.0**	**$0.0**	**$0.0**
EPS	1Q	--	($0.46)A	--
	2Q	($5.39)	($0.55)A	--
	3Q	($3.66)	($0.58)	--
	4Q	($0.47)	($0.63)	--
	FY	**($5.59)**	**($2.20)**	**($4.75)**

Source: Company reports and JMP Securities LLC

STOCK PRICE PERFORMANCE

MARKET OUTPERFORM | Price: $37.98 | Target Price: $50.00

INVESTMENT HIGHLIGHTS

Quick takeaways following a fireside chat with Karyopharm Therapeutics management; reiterate Market Outperform rating and $50 price target for KPTI based on our DCF, CAGR, and SOTP methodologies. Karyopharm CEO Michael Kauffman joined our Boston Biotech Conference on Friday. Key takeaways included a recap of selinexor's mechanism of action, both as a single agent and synergistically in combination with dexamethasone, and an overview of registration-directed Phase II trials in DLBCL and Richter's beginning year-end. Importantly, the company expects to see significantly improved outcomes in Phase II over the Phase I experience in both heme malignancy and solid tumors, benefited by better baseline co-morbidity, side-effect management, and higher mean dose levels.

Quick reference and recap of robust Phase I evaluation of selinexor to date (ASCO and EHA 2014):

- 150 pts in heme malignancy including AML, NHL (CLL, DLBCL, Richter's, Waldenstrom's), and myeloma
- 130 pts in solid tumors
- Durable responses in heme as long as >12 months
- Phase I patients comprised of last-line, multiply refractory, without available alternative therapies.
- Phase II outcomes expected to improve with better baseline quality of patients, better management of safety/side effects.

Thoughts on preclinical mechanism of action with selinexor:

- Selinexor inhibits nuclear export via XPO1, antitumor activity thought to derive from nuclear retention of tumor suppressors
- Selinexor activity largely independent of p53, despite p53 tumor suppressor loss in ~50% of tumors
- Achieved through effects on p73 and nuclear retention of multiple tumor suppressors, and through retention of oncogenic mRNA transcripts
- Unclear impact to immune cells. Selinexor does downregulate NFkB. Not seeing an increase in opportunistic infections. Some dampening effect on the immune system but not suppression.

Thoughts on synergistic mechanisms with steroids in myeloma:

- Single-agent dex can achieve 10% response rates.

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- Synergy with dexamethasone is regarded as different from additive activity seen with Pomalyst or Kyprolis.
- XPO1 interacts with glucocorticoid (GC) receptor - XPO1 inhibition with selinexor prevents GC efflux to cytoplasm and increasing nuclear retention, activation of GC-dependent gene expression.

Next clinical updates at ASH:

- Myeloma - 60mg/m2 + dex in up to 10 patients in myeloma
- R/R DLBCL - 60mg/m2 + dex data in aggressive DLBCL, 25-28 pts overall, including single-agent selinexor and combo with low dose dex.
- AML – no new updates at ASH. Phase I closed accrual to focus on Phase II enrollment, data in 2016.

On registration-directed trials:

- DLBCL and Richter's registration trials to be up and running by year end
- DLBCL trial in 3L+ patients, two-arm study, 100mg and 60mg selinexor, with dex and Zofran (serotonin 5 HT3 inhibitor) as supportive care. 1° endpoints: response rate and DOR. Fifty percent of patients on each arm to be germinal center, estimate that 5-10% of patients will be double hit, blessing from FDA on eligibility for accelerated approval.

Company Description

Karyopharm Therapeutics (KPTI) is a Natick, MA-based, clinical-stage biopharmaceutical company focused on the discovery and development of novel first-in-class drugs directed against nuclear transport targets for the treatment of cancer and other major diseases. Karyopharm's Selective Inhibitors of Nuclear Export (SINE) compounds function by preventing the export of tumor suppressor proteins from the nucleus, driving accumulation and restoration of function. The company's lead pipeline candidate, selinexor (KPT-330), is a Phase I orally available small molecule inhibitor of XPO1, set to initiate pivotal Phase II/III evaluation in various hematologic malignancies in 2014. Karyopharm is also developing selinexor and SINE as potential therapies for autoimmune and inflammatory disease, viral infections, and wound healing.

Investment Risks

Clinical. Drug development is an inherently risky business. Clinical trials always carry a risk of failure and Karyopharm's assets (Selinexor (KPT330), KPT-350, PAK4 inhibitor, verdinexor or future drug candidates) may fail to demonstrate meaningful enough levels of efficacy in current or future clinical trials.

Regulatory and commercial. The ability of Karyopharm to market its drugs depends upon the drugs obtaining approval from the FDA and foreign regulatory agencies. Failure to achieve approval or delays in the timelines to approval could negatively impact the company's share price.

Competitive. Hematologic malignancies, including multiple myeloma, indolent non-Hodgkin lymphoma, and acute myeloid leukemia represent increasingly competitive fields and Karyopharm faces competition from both commercial and development-stage companies with product(s) or product candidates addressing similar clinical indications. Some of these companies may possess substantially greater R&D and commercial resources than Karyopharm. As such, there is no assurance Karyopharm will be competitive or differentiated from other drug products.

Financial. Following its IPO, Karyopharm ended 1Q14 with approximately $156MM in cash and cash equivalents. We anticipate the company is likely to seek additional equity financing in the form of a secondary offering in order to complete the development of its drug candidates, creating dilution risk for existing shareholders.

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Market Outperform (MO): JMP Securities expects the stock price to outperform relevant market indices over the next 12 months.
Market Perform (MP): JMP Securities expects the stock price to perform in line with relevant market indices over the next 12 months.
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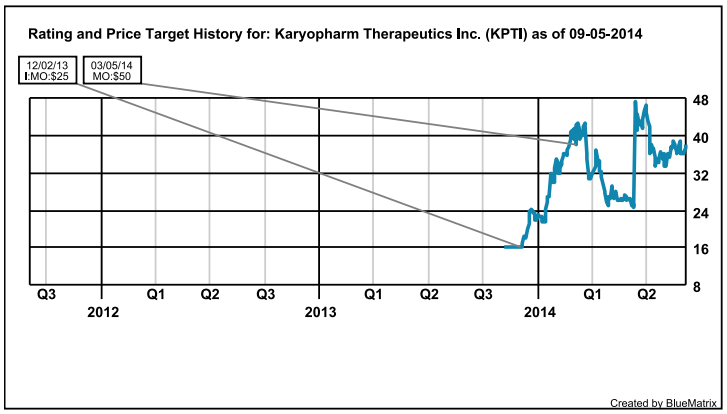
JMP Securities Research Ratings and Investment Banking Services: (as of September 8, 2014)

JMP Rating	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	# Co's Receiving IB Services in Past 12 Months	*% of Co's With This Rating*
MARKET OUTPERFORM	Buy	273	*60.53%*	Buy	273	*60.53%*	105	*38.46%*
MARKET PERFORM	Hold	138	*30.60%*	Hold	138	*30.60%*	19	*13.77%*
MARKET UNDERPERFORM	Sell	4	*0.89%*	Sell	4	*0.89%*	0	*0%*
COVERAGE IN TRANSITION		36	*7.98%*		36	*7.98%*	0	*0%*
TOTAL:		451	*100%*		451	*100%*	124	*27.49%*

Stock Price Chart of Rating and Target Price Changes:

Note: First annotation denotes initiation of coverage or 3 years, whichever is shorter. If no target price is listed, then the target price is N/A. In accordance with NASD Rule 2711, the chart(s) below reflect(s) price range and any changes to the rating or price target as of the end of the most recent calendar quarter. The action reflected in this note is not annotated in the stock price chart. Source: JMP Securities.



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