Karyopharm Therapeutics Inc. (KPTI)

Highlights From Our Meeting with Management

MARKET DATA

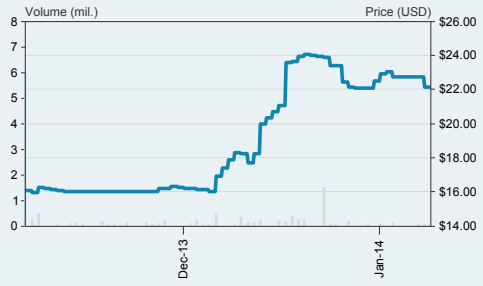
Price	$22.61
52-Week Range:	$15.50 - $25.69
Shares Out. (M):	27.6
Market Cap ($M):	$624.0
Average Daily Vol. (000):	55.0
Cash (M):	$153
Cash/Share:	$5.56
Enterprise Value (M):	$474
Float (M):	12.2
LT Debt (M):	$0

Source: Thomson Reuters and JMP Securities LLC

FY DEC		2012A	2013E	2014E
Revenue ($M)	1Q	--	--	$0.0
	2Q	--	$0.4A	$0.0
	3Q	--	$0.0	$0.0
	4Q	--	$0.0	$0.0
	FY	**$0.6**	**$0.0**	**$0.0**
EPS	1Q	--	--	($0.30)
	2Q	--	($5.39)A	($0.35)
	3Q	--	($0.31)	($0.44)
	4Q	--	($0.29)	($0.55)
	FY	**($8.95)**	**($1.22)**	**($1.64)**

Revenue ($M) 2013 Q2: Results are for six months ended June 30, 2013
EPS 2013 Q2: Results are for six months ended June 30, 2013
Source: Company reports and JMP Securities LLC

STOCK PRICE PERFORMANCE



MARKET OUTPERFORM | Price: $22.61 | Target Price: $25.00

INVESTMENT HIGHLIGHTS

Takeaways from our meeting with management reinforce our optimistic outlook on selinexor development in 2014; reiterating Market Outperform rating on Karyopharm Therapeutics and $25 price target based on DCF, SOTP and comparable valuation methodologies. Commencement of registration-directed trials will continue to be a primary driver for KPTI over 2014, with pivotal, single-agent studies in relapsed/refractory AML and DLBCL presently taking shape (further detail provided below). Trials in both indications are likely to benefit from higher dose levels than the 35mg/m2 detailed at ASH, enabled by better management of GI side effects with supportive care. In addition, 2014 will be a year of a number of combination trial starts and ISTs in order to support movement into earlier lines of therapy in AML and DLBCL as well as to establish a potential registration path in multiple myeloma (e.g., combinations with Revlimid, Pomalyst, Velcade and Kyprolis). Finally, recent updates with the canine NHL-directed verdinexor point to incrementally better efficacy since the company's IPO, which in our view, bodes well for selinexor activity in human DLBCL (recall that response rates of drugs in canine lymphoma is highly predictive of those in humans). Overall, we maintain an extremely favorable outlook on KPTI shares based on the quality of data seen to date supporting selinexor's potential as a fundamental, new pillar of cancer therapy, as well as management's track record of value creation in the biotechnology industry.

Further dose escalation permitted through better side-effect management. According to management, trial investigators appear to have a better handle on the predominant adverse events of anorexia and nausea through better monitoring and use of supportive care. The hematologic malignancy Phase I trial continues to dose escalate above the 35mg/m2 expansion cohort dose presented at ASH. A 50mg/m2 cohort recently completed enrollment and investigators expect to be able to dose up to at least 70mg/m2, as an MTD has not yet been reached.

Preparation for AML pivotal study is a central focus for the next five months. Parameters for a forthcoming registration directed study continue to take shape. Specifically, the trial will be conducted in a relapse/refractory elderly population following at least one prior line of therapy with cytarabine, hypomethylating agents (HMAs) or supportive care. The trial is likely to adopt a 2:1 randomized design using an OS primary endpoint, comparing selinexor to best supportive care in ~200 patients, without the potential for crossover. Target overall survival in selinexor is in the area of ≥3 months, or a HR of 0.67 given the current survival rate of 2-3 months in the relapsed setting. Based on the high level of physician interest, management expects to recruit rapidly from both U.S. and EU centers. While we agree that R/R AML offers a prudent, initial path to market give the unmet need, we maintain a view of selinexor ultimately being

Michael G. King, Jr.
mking@jmpsecurities.com
(212) 906-3520

Eric Joseph, PhD
ejoseph@jmpsecurities.com
(212) 906-3514

used as upfront therapy in elderly AML in addition to the relapsed setting, either as a single-agent or in combination with the best supportive therapy. To the latter point, we note that 2014 will also be a year of combination trial starts with HMAs and low-dose cytarabine. This study should initiate before the end of 2Q14.

Contours of a second pivotal DLBCL study also begin to take shape. Specifically, management has identified the double refractory or greater population, including at least one prior rituximab containing regimen, as its target indication. The trial is likely to adopt a 2:1 randomized design of single-agent selinexor compared to the physician's choice of chemotherapy (oxaliplatin, ifosfamide, gemcitabine or vinorelbine) in ~300 patients, using a PFS primary endpoint. Although a Phase II dose has not yet been established, expectations are that a dose >45mg/m2 will be adopted. In terms of efficacy, management views PFS ≥3 months or HR=0.67 (most patients typically failing by their second cat scan) as the appropriate hurdle for success. Our expectation is that this study should commence shortly after the AML trial.

Efficacy and march-to-market with verdinexor continues steadily. As a reminder, verdinexor is Karyopharm's SINE analog compound directed toward the treatment of canine NHL. The company recently announced the submission of a new animal drug application (NADA) for verdinexor with the FDA, at the same time disclosing an updated overall response rate of 34% (20/58 dogs, including one complete response) in newly diagnosed and first-relapse B- and T-cell lymphoma, compared to 29% at the time of the IPO. Given the similarities in disease pathology and treatment options, we regard verdinexor's efficacy as a meaningful and encouraging surrogate for selinexor potential in humans, akin to Imbruvica (PCYC, MO, $163 PT) and demonstrated activity in canine lymphoma during the early stages of its development. A verdinexor market launch remains a year away, wherein the company expects to secure a commercial partner to support and implement a commercial production marketing strategy and complete the CMC portion of the NADA filing. Animal sales are excluded, and are thus potential upside, to our valuation.

Multiple other milestones for 2014 lie ahead. These include the initiation of combination ISTs with IMiDs and proteasome inhibitors in refractory/salvage multiple myeloma and the start of single-arm trial in Richter's transformation CLL potentially in 2H14. Progress is also taking place on the solid tumor front with Phase II trials in gynecologic carcinoma and recurrent GBM slated to begin enrollment near term, according to clinicaltrials.gov (NCT0205985 and NCT01986348, respectively). Finally, management anticipates several updates from ongoing Phase I studies in both heme malignancy and solid tumors to be presented at ASCO in June.

FIGURE 1. Upcoming Milestones

Timing	Drug	Milestones
1H14	Selinexor	Initiation of first pivotal Phase II/III study in (elderly R/R AML, DLBCL, or MM)
1H14	Selinexor	Initiation of second pivotal Phase II/III study in (second potential indication)
1H14	Selinexor	Initiation of first Phase II trial in solid tumor indication (potentially gynecological malignancies)
1H14	Selinexor	Initiation of second Phase II trial in solid tumor indication (squamous cell cancer, e.g., head and neck, lung or esophageal cancer)
2H14	KPT-350	IND completion for use in inflammation, auto-immune and anti-viral indications
2H14	PAK Inhibitor	IND completion for use in oncology indications

Source: Karyopharm company reports

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 their 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 on those 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, we estimate that Karyopharm will end 4Q13 with approximately $153MM in cash and cash equivalents, which are adequate resources to fund operations into 2015, according to Karyopharm financial guidance. 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.

JMP FACTS AND DISCLOSURES

Analyst Certification:

The research analyst(s) who prepared this report does/do hereby certify that the views presented in this report are in accordance with my/our personal views on the securities and issuers discussed in this report. As mandated by SEC Regulation AC no part of my/our compensation was, is or will be directly or indirectly related to the specific views or recommendations expressed herein. This certification is made under the obligations set forth in SEC Regulation AC. Any other person or entity may not use it for any other purpose. This certification is made based on my/our analysis on the date of this report's publication. I/We assume no obligation to update this certification to reflect any facts,circumstances or events that may subsequently come to my/our attention. Signed Michael G. King and Eric Joseph

JMP Securities Disclosures:

JMP Securities currently makes a market in the securities of Karyopharm Therapeutics Inc. and Pharmacyclics, Inc.

JMP Securities was manager or co-manager of a public offering, and received compensation for doing so, for Karyopharm Therapeutics Inc. in the past 12 months.

JMP Securities Investment Opinion Definitions:

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.

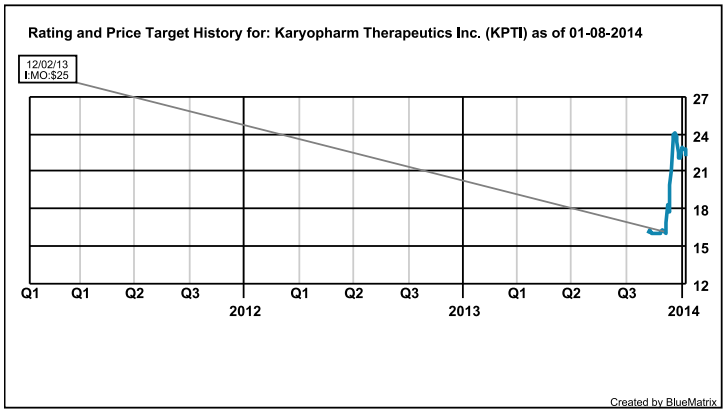
Market Underperform (MU): JMP Securities expects the stock price to underperform relevant market indices over the next 12 months.

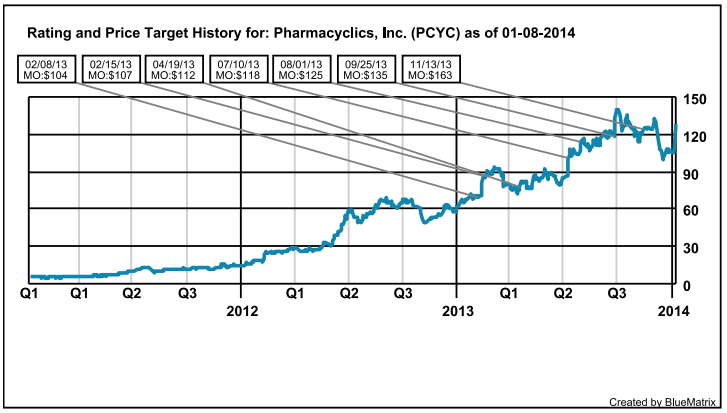
JMP Securities Research Ratings and Investment Banking Services: (as of January 8, 2014)

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	241	*55.40%*	Buy	241	*55.40%*	92	*38.17%*
MARKET PERFORM	Hold	145	*33.33%*	Hold	145	*33.33%*	26	*17.93%*
MARKET UNDERPERFORM	Sell	6	*1.38%*	Sell	6	*1.38%*	0	*0%*
COVERAGE IN TRANSITION		43	*9.89%*		43	*9.89%*	0	*0%*
TOTAL:		435	*100%*		435	*100%*	118	*27.13%*

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.





JMP Disclaimer:

JMP Securities LLC (the “Firm”) compensates research analysts, like other Firm employees, based on the Firm’s profitability, which includes revenues from the Firm’s institutional sales, trading, and investment banking departments as well as on the quality of the services and activities performed that are intended to benefit the Firm’s institutional clients. These data have been prepared by JMP Securities LLC for informational purposes only and are based on information available to the public from sources that we believe to be reliable, but we do not guarantee their accuracy or completeness. Any opinions and projections expressed herein reflect our judgment at this date and are subject to change without notice. These data are neither intended nor should be considered as an offer to sell or a solicitation or a basis for any contract for the purchase of any security or other financial product. JMP Securities LLC, its affiliates, JMP Group LLC, Harvest Capital Strategies LLC, and their respective partners, directors, officers, and associates may have a long or short position in, may act as a market maker for, or may purchase or sell a position in the securities mentioned herein. JMP Securities LLC or its affiliates may be performing, have performed, or seek to perform investment banking, advisory, or other services and may have acted as manager or co-manager for a public offering of securities for any company mentioned herein. The reader should assume that JMP Securities LLC will solicit business from the company covered in this report. Members of our Sales and Trading Department provide oral and/or written market opinions and trading strategies to our clients that reflect their personal opinions about stocks that are the subject of the firm's research reports. Our research analysts discuss trading strategies with clients and complete surveys from clients that sometimes reflect short-term expectations for the price of the securities that are the subject of research reports. Those trading strategies and survey responses are distinct from the analysts' fundamental rating for the stock, which is based upon the analysts' view compared to other stocks under coverage for the relevant time period. JMP Securities LLC is a member of FINRA, NASDAQ, and SIPC.

Jeffrey H. Spurr
Director of Research
(415) 835-3903

RESEARCH PROFESSIONALS

FINANCIAL SERVICES

Alternative Asset Managers
Devin Ryan (212) 906-3578
Brian McKenna (212) 906-3545

Commercial & Specialty Finance
Christopher York (415) 835-8965
Hannah Kim, CFA (415) 835-8962

Consumer Finance
David M. Scharf (415) 835-8942
Jeremy Frazer (312) 768-1796

Financial Processing & Outsourcing
David M. Scharf (415) 835-8942
Jeremy Frazer (312) 768-1796

Insurance
Matthew J. Carletti (312) 768-1784
Christine Worley (312) 768-1786

Investment Banks & Brokers
Devin Ryan (212) 906-3578
Brian McKenna (212) 906-3545

Mortgage Operating Companies
REITs: Agency, Hybrid, & Commercial Mortgage
Steven C. DeLaney (404) 848-7773
Trevor Cranston, CFA (415) 869-4431
Charter Robinson (757) 613-8955
Benjamin Zucker (212) 906-3529

HEALTHCARE

Biotechnology
Liisa A. Bayko (312) 768-1785
Heather Behanna, PhD (312) 768-1795
Andrew Prigodich (312) 768-1788
Jason N. Butler, PhD (212) 906-3505
Christopher T. Radom, PhD (212) 906-3519
Caroline Palomeque (212) 906-3509
Michael G. King, Jr. (212) 906-3520
Eric Joseph, PhD (212) 906-3514
Joseph A. Knowles (212) 906-3525

Healthcare Services & Facilities
Peter L. Martin, CFA (415) 835-8904
Aaron Hecht (415) 835-3963
Arthur Kwok (415) 835-8908

Life Science Tools & Diagnostics
J. T. Haresco, III, PhD (415) 869-4477
Marie T. Casey, PhD (415) 835-3955

Medical Devices
J. T. Haresco, III, PhD (415) 869-4477
Marie T. Casey, PhD (415) 835-3955

Medical Devices & Supplies
David Turkaly (212) 906-3563
John Gillings (212) 906-3564

REAL ESTATE

Housing & Land Development
Peter L. Martin, CFA (415) 835-8904
Aaron Hecht (415) 835-3963
Bharathwajan Iyengar (415) 835-3902

Lodging
Robert A. LaFleur (212) 906-3510
Whitney Stevenson (212) 906-3538

Property Services
Mitch Germain (212) 906-3546
Peter Lunenburg (212) 906-3537

REITs: Healthcare, Residential, & Specialty
Peter L. Martin, CFA (415) 835-8904
Aaron Hecht (415) 835-3963
Arthur Kwok (415) 835-8908

REITs: Office, Industrial, & Diversified
Mitch Germain (212) 906-3546
Peter Lunenburg (212) 906-3537

Residential Services
Peter L. Martin, CFA (415) 835-8904
Aaron Hecht (415) 835-3963
Bharathwajan Iyengar (415) 835-3902

TECHNOLOGY

Communications Equipment & Internet Security
Erik Suppiger (415) 835-3918
John Lucia (415) 835-3920

Internet & Digital Media
Ronald V. Josey III (212) 906-3528
Andrew Boone (415) 835-3957

Software
Patrick Walravens (415) 835-8943
Peter Lowry (415) 869-4418
Caitlin Schields (415) 835-8960
Greg McDowell (415) 835-3934

Wireless & Cloud Computing Technologies
Alex Gauna (415) 835-8998
Michael Wu (415) 835-8996

ADDITIONAL CONTACTS

Thomas R. Wright
Director of Equities
(212) 906-3599

Dan Wychulis
Director of Institutional Sales
(617) 235-8530

600 Montgomery Street, Suite 1100
San Francisco, CA 94111
www.jmpsecurities.com