Karyopharm Presents Preliminary STOMP Phase 1b Clinical Data at 2016 European Hematology Association Annual Meeting

- Preclinical Data for Second-Generation SINE™ Compound, KPT-8602, Also Featured -
- Updated Clinical Data Shows High Response Rates When Selinexor Is Combined with Standard of Care Agents in Heavily Pretreated Patients with Multiple Myeloma -

NEWTON, Mass., June 10, 2016 (GLOBE NEWSWIRE) -- Karyopharm Therapeutics Inc. (Nasdaq:KPTI), a clinical-stage pharmaceutical company, today announced a poster presentation highlighting updated clinical data from the Company's ongoing Phase 1b study of selinexor (KPT-330), a first-in-class, oral Selective Inhibitor of Nuclear Export / SINE™ compound that inhibits exportin 1 (XPO1), and dexamethasone in combination with standard of care agents in heavily pretreated patients with relapsed/refractory multiple myeloma (MM) (the STOMP study), including patients with proteasome inhibitor and immunomodulatory agent (IMiD) refractory MM. The Company also presented two e-posters featuring preclinical data for its second-generation SINE™ compound, KPT-8602. These data sets were presented at the 21stCongress of the European Hematology Association (EHA) held June 9-12, 2016 in Copenhagen, Denmark.

"We are highly encouraged by the promising, durable activity and safety we continue to observe in the STOMP trial," said Sharon Shacham, PhD, MBA, President and Chief Scientific Officer of Karyopharm. "Selinexor and dexamethasone in combination with backbone therapies, such as bortezomib and pomalidomide, has the potential to provide a new treatment option for multiple myeloma, even in heavily pretreated patients whose disease has progressed on these standard agents. We look forward to reporting additional top-line data from the Phase 1b portion of this study in late 2016, with the accompanying goal of determining the recommended Phase 2 doses for several of these combinations."

In the poster, titled "A Phase 1b/2 Study of Selinexor in Combination with Backbone Therapies for Treatment of Relapsed/Refractory Multiple Myeloma," Dr. Nizar Bahlis of the Southern Alberta Cancer Research Institute and colleagues, for the first time described clinical data from the ongoing Phase 1b/2 STOMP study of selinexor and dexamethasone in combination with bortezomib (Velcade®), pomalidomide (Pomalyst®), or lenalidomide (Revlimid®) in heavily pretreated relapsed/refractory MM patients. High response rates were reported for the selinexor + dexamethasone + bortezomib (SdB) and selinexor + dexamethasone + pomalidomide (SdP) arms; data are early for the ongoing selinexor + dexamethasone + lenalidomide (SdL) arm.

Dr. Bahlis commented, "We are particularly impressed with the high level of durable activity of selinexor in combination with bortezomib, particularly in patients whose disease is refractory to proteasome inhibitors. In addition, the preliminary results show that selinexor can combine with pomalidomide with good tolerability and strong responses. Together, these data indicate that selinexor can be added to standard treatments for patients with myeloma with high rates of anti-tumor activity, consistent with preclinical results showing that selinexor can reverse resistance to other therapies."

A summary of data from the first 24 patients treated as of June 8, 2016 are outlined in the following table and described below.

Best Responses* Arms SdB, SdP, SdL as of 8-June-2016

Treatment Arm	N	ORR (%)	CR (%)	VGPR (%)	PR (%)	MR (%)	SD (%)	PD (%)	CBR (%)
SdB - All Patients1	16	11 (69%)	1 (6%)	3 (19%)	7 (44%)	3 (19%)	1 (6%)	1 (6%)	14 (88%)
SdB - Proteasome Inhibitor Refractory2	10	7 (70%)	1 (10%)	1 (10%)	5 (50%)	1 (10%)	1 (10%)	1 (10%)	8 (80%)
SdP3,4	7	4 (57%)	--	1 (14%)	3 (43%)	1 (14%)	2 (29%)	--	5 (71%)
SdL5	1	1 (100%)	--	--	1 (100%)	--	--	--	1 (100%)

*Responses were adjudicated according to the International Myeloma Working Group criteria. ORR=Overall Response Rate (VGPR+PR), CR=Complete Response, VGPR=Very Good Partial Response, PR=Partial Response, MR=Minor Response, SD=Stable Disease, PD=Progressive Disease, CBR=Clinical Benefit Rate (VGPR+PR+MR). Responses as of 8-June-2016 based on interim unaudited data.
1Includes 3 patients on treatment with unconfirmed VGPRs, 5 patients on treatment with unconfirmed PRs
2Seven out of 10 patients who have responded on the SdB Arm have either bortezomib & carfilzomib-refractory (N=2), bortezomib-refractory (N=7), or carfilzomib-refractory (N=1) MM
3Includes 2 patients on treatment with unconfirmed PRs
4All responders have lenalidomide-refractory MM
5Includes 1 patient on treatment with an unconfirmed PR

- Of the 16 evaluable patients treated in the SdB combination arm, 11 responded (1 patient with a complete response (CR), 3 patients with a very good partial response (VGPR) and 7 patients with a partial response (PR)) for an overall response rate (ORR) of 69%. An additional 3 patients achieved a minor response (MR), for a clinical benefit rate (CBR) of 88%. Ten of the 16 evaluable patients in the SdB combination arm had MM previously refractory to a proteasome inhibitor and several had high risk haplotypes including deletion of chromosome 17p. Seven of these 10 patients responded (1 CR, 1 VGPR and 5 PR) for an ORR of 70%. An additional patient achieved a MR for a CBR of 80% in this subgroup. Overall, side effects were similar to, or less than, those observed with single-agent selinexor. In the SdB arm, the most commonly reported adverse events were fatigue, anorexia, nausea and diarrhea, which were primarily grade 1 or 2. Four grade 3 and two grade 4 incidences of thrombocytopenia (without bleeding) were also reported. Peripheral neuropathy has not been reported.

- Of the 7 evaluable patients treated in the SdP combination arm, 4 responded for an ORR of 57%, including 1 VGPR and 3 PR. An additional patient had an MR, for a CBR of 71%. Commonly reported adverse events for patients enrolled in this arm were nausea and dysgeusia, which were primarily grade 1 or 2, grade 3 thrombocytopenia without bleeding (2 patients), and three grade 3 and one

grade 4 incidences of neutropenia without infection.

- In addition, the 1 evaluable patient treated in the SdL combination arm achieved a PR.

- Across all arms, the most common adverse events were anorexia, nausea, fatigue and thrombocytopenia, which were similar to, or lower than, those historically observed with selinexor or backbone therapies separately. Of the 24 patients evaluable for response, 63% remained on therapy for over 3 months and many are continuing treatment.

Second Generation SINE™ Compound KPT-8602

Two e-posters describing promising preclinical activity of KPT-8602, Karyopharm's second-generation SINE™ compound, in both acute lymphoblastic leukemia (ALL) and diffuse large B-cell lymphoma (DLBCL) were also presented:

- In the first e-poster, titled "KPT-8602 is a Second-Generation XPO1 Inhibitor with Improved In Vivo Tolerability and Potent In Vivo Activity Against Acute Lymphoblastic Leukemia," Dr. Jolien De Bie of the Katholieke Universiteit Leuven, described effects of KPT-8602 on ALL cell lines, including inhibition of XPO1-cargo interaction and XPO1-dependent nuclear export. In addition, potent anti-leukemic cytotoxicity and prolonged survival was observed in animal models treated with KPT-8602 compared to vehicle control.

- The second e-poster, titled "KPT-8602, a Second Generation Clinical Stage Selective Inhibitor of Nuclear Export (SINE) Compound Shows Enhanced Anti-Tumor Activity when Combined with Venetoclax or Bendamustine in DLBCL," Dr. Erkan Baloglu of Karyopharm, described the preclinical activity of KPT-8602 as a single-agent and in combination with bendamustine or venetoclax in models of DLBCL, including aggressive double hit DLBCL.

About Selinexor

Selinexor (KPT-330) is a first-in-class, oral Selective Inhibitor of Nuclear Export / SINE™ compound. Selinexor functions by binding with and inhibiting the nuclear export protein XPO1 (also called CRM1), leading to the accumulation of tumor suppressor proteins in the cell nucleus. This reinitiates and amplifies their tumor suppressor function and is believed to lead to the selective induction of apoptosis in cancer cells, while largely sparing normal cells. Over 1,500 patients have been treated with selinexor in company and investigator-sponsored Phase 1 and Phase 2 clinical trials in advanced hematologic malignancies and solid tumors. Selinexor is being evaluated in several later-phase clinical trials, including one in older patients with acute myeloid leukemia (SOPRA), one in patients with diffuse large B-cell lymphoma (SADAL), one in patients with liposarcoma (SEAL) and a single-arm trial of selinexor and low-dose dexamethasone in patients with multiple myeloma (STORM). Additional Phase 1 and Phase 2 studies are ongoing or currently planned, including multiple studies in combination with one or more approved therapies in a variety of tumor types to further inform the company's clinical development priorities for selinexor. The latest clinical trial information for selinexor is available at www.clinicaltrials.gov.

About KPT-8602

KPT-8602 is a second-generation oral SINE™ compound. KPT-8602 functions by binding to and inhibiting the nuclear export protein XPO1 (also called CRM1), leading to the accumulation of tumor suppressor proteins in the cell nucleus. KPT-8602 has demonstrated minimal brain penetration in animals, which has been associated with reduced toxicities in preclinical studies while maintaining potent anti-tumor effects.

About Karyopharm Therapeutics

Karyopharm Therapeutics Inc. (Nasdaq:KPTI) is a clinical-stage pharmaceutical company focused on the discovery and development of novel, first-in-class drugs directed against nuclear transport and related targets for the treatment of cancer and other major diseases. Karyopharm's SINE™ compounds function by binding with and inhibiting the nuclear export protein XPO1 (or CRM1). In addition to single-agent and combination activity against a variety of human cancers, SINE™ compounds have also shown biological activity in models of neurodegeneration, inflammation, autoimmune disease, viral infection and wound-healing. Karyopharm was founded by Dr. Sharon Shacham and is located in Newton, Massachusetts. For more information, please visit www.karyopharm.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those regarding the therapeutic potential of and potential clinical development plans for Karyopharm's drug candidates, including the timing of initiation of certain trials and of the reporting of data from such trials. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from the company's current expectations. For example, there can be no guarantee that any of Karyopharm's SINE™ compounds, including selinexor (KPT-330) and KPT-8602, or any other drug candidate that Karyopharm is developing will successfully complete necessary preclinical and clinical development phases or that development of any of Karyopharm's drug candidates will continue. Further, there can be no guarantee that any positive developments in Karyopharm's drug candidate portfolio will result in stock price appreciation. Management's expectations and, therefore, any forward-looking statements in this press release could also be affected by risks and uncertainties relating to a number of other factors, including the following: Karyopharm's results of clinical trials and preclinical studies, including subsequent analysis of existing data and new data received from ongoing and future studies; the content and timing of decisions made by the U.S. Food and Drug Administration and other regulatory authorities, investigational review boards at clinical trial sites and publication review bodies; Karyopharm's ability to obtain and maintain requisite regulatory approvals and to enroll patients in its clinical trials; unplanned cash requirements and expenditures; development of drug candidates by Karyopharm's competitors for diseases in which Karyopharm is currently developing its drug candidates; and Karyopharm's ability to obtain, maintain and enforce patent and other intellectual property protection for any drug candidates it is developing. These and other risks are described under the caption "Risk Factors" in Karyopharm's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, which was filed with the Securities and Exchange Commission (SEC) on May 9, 2016, and in other filings that Karyopharm may make with the SEC in the future. Any forward-looking statements contained in this press release speak only as of the date hereof, and Karyopharm expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

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