Karyopharm Presents Hematologic Cancer Data on Lead Drug Candidate Selinexor at European Hematology Association Annual Meeting

NEWTON, Mass., June 15, 2015 (GLOBE NEWSWIRE) -- Karyopharm Therapeutics Inc. (Nasdaq:KPTI), a clinical-stage pharmaceutical company, today announced the presentation of positive clinical data for its lead product candidate, selinexor (KPT-330), a first-in-class, oral Selective Inhibitor of Nuclear Export / SINE™ compound, at the 20thCongress of the European Hematology Association (EHA) 2015 Annual Meeting held June 11-14, 2015 in Vienna, Austria.

In an ongoing Phase 1b company-sponsored clinical trial evaluating the activity of single-agent selinexor (doses of 3-80mg/m2) in heavily pre-treated patients with diffuse large B-cell lymphoma (DLBCL), selinexor demonstrated a 43% overall response rate (partial response or better) in patients on study greater than one month, and a 31% overall response rate across all doses in the intention to treat population, with a median duration of response (DOR) of greater than nine months. Similar responses were observed in both GCB and non-GCB subtypes. The median overall survival (OS) and progression free survival (PFS) were 4.6 months and 1.7 months, respectively, for the entire study. In patients with a response to selinexor (N=12), the median OS was greater than 10 months (median not reached) and PFS was 24 months, significantly longer than those without a response (N=27; OS 3.5 months, PFS 1.2 months). Adverse events were manageable with standard supportive care and clinically significant cumulative toxicities were not observed, with several patients remaining on selinexor for more than one year.

Additional clinical data on selinexor's activity in DLBCL, including in patients with double-hit DLBCL, will be provided in an oral presentation on Saturday, June 20, 2015, at 10:50 CEST by Dr. Ramiro Garzon from the Ohio State University at the 13thInternational Conference on Malignant Lymphoma (ICML) in Lugano, Switzerland.

Initial data from the ongoing Selinexor AraC Idarubicin Leukemia, or "SAIL," study, an investigator-sponsored Phase 2 clinical trial of selinexor with intensive chemotherapy (idarubicin and cytosine arabinoside [Ara-C]) in patients with acute myeloid leukemia (AML) that relapsed after standard intensive induction chemotherapy, were also reported. In 18 evaluable patients, the combination of selinexor (40 mg/m2) with idarubicin/Ara-C demonstrated a 56% overall response rate, including nine patients with complete remission (CR/CRi) and one patient with a partial remission. Adverse events were manageable with standard supportive care and dose adjustments.

"We are excited by these promising data presented at EHA, which continue to demonstrate the vast potential of selinexor across hematologic malignancies and provide further evidence of selinexor's broad and durable activity, both as a single agent and in combination therapy," said Sharon Shacham, PhD, MBA, President and Chief Scientific Officer of Karyopharm. "The correlation between response and prolonged survival demonstrated in heavily pretreated DLBCL patients suggests that responses to selinexor may confer a clinical benefit in this very difficult to treat population and support the ongoing SADAL study in this group of patients. Moreover, the preliminary clinical data in patients with relapsed/refractory AML suggest that selinexor can be combined effectively with manageable side effects. These findings represent the reported clinical data of selinexor in combination with intensive chemotherapy and suggest that selinexor can enhance the activity of these agents with manageable side effects."

Selinexor data in DLBCL were described during an oral presentation by Dr. Ramiro Garzon of the Ohio State University on Saturday, June 13, entitled "Patients with Heavily Pretreated Diffuse Large B-Cell Lymphoma (DLBCL) who Respond to Oral Selinexor Therapy Show Prolonged Survival: Updated Phase 1 Results." These data from an ongoing Phase 1b clinical study of single-agent selinexor (3-80 mg/m2 oral doses) in patients with DLBCL were as of June 1, 2015 and included the following highlights:

- Among 28 response evaluable patients (per protocol defined as those patients on study for at least one month), the ORR was 43% and the disease control rate (stable disease or better) was 71%. Responses included four patients (14%) who achieved a complete response as confirmed by PET scan, eight patients (29%) who achieved a partial response and 8 patients (29%) with stable disease.
- Among 39 patients treated across all doses, the ORR was 31% and the disease control rate (stable disease or better) was 51%.
- Duration of response was greater than nine months.
- Patients with a response to selinexor (N=12), achieved OS of greater than ten months (median not

reached) and PFS of 24 months which were significantly longer than those without a response (N=27; OS 3.5 months, PFS 1.2 months).
- The median overall survival (OS) and progression free survival (PFS) were 4.6 months and 1.7 months, respectively, for the entire study.
- Selinexor showed similar activity in both GCB and non-GCB subtypes of DLBCL.

In a late-breaking poster presented on Saturday, June 13, entitled "Preliminary Phase II Results of Ara-C And Idarubicin in Combination with Selective Inhibitor of Nuclear Export (SINE) Compound Selinexor (KPT-330) in Patients with Relapsed or Refractory AML," Dr. Walter Fiedler of the University Medical Center Hamburg and colleagues described preliminary data from the ongoing Phase 2 SAIL clinical trial demonstrating that selinexor in combination with standard doses of Ara-C and idarubicin is a potentially effective strategy for treating patients with AML that was relapsed or refractory after at least one line of chemotherapy. All data are as of April 27, 2015 and highlights include:

- An overall response rate of 56% was achieved based on 18 evaluable patients with three patients (17%) achieving complete remission (CR), six patients (33%) achieving complete remission with incomplete blood count recovery (CRi) and one patient (6%) achieving partial remission (PR).
- Ten patients (56%) received or were expected to receive either stem cell transplant or donor lymphocyte infusion.
- Adverse events were manageable with standard supportive care and dose adjustments.

An additional poster was presented on Saturday, June 13, entitled "XPO1 Inhibition Using Selinexor Synergizes with Chemotherapy in Acute Myeloid Leukemia (AML) by Targeting DNA Repair Genes" by Dr. Romero Garzon of the Ohio State University. In that preclinical study, Dr. Garzon and colleagues showed that selinexor synergizes with anthracyclines and other topoisomerase 2 inhibitors by preventing AML cells from repairing their DNA after damage by the chemotherapy. This study provides the scientific rationale for the ongoing SAIL study described above and additional studies with topoisomerase 2 inhibitors, as well as mechanistic insights into the use of selinexor with other chemotherapeutic agents.

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, which subsequently reinitiates and amplifies their tumor suppressor function. This is believed to lead to the selective induction of apoptosis in cancer cells, while largely sparing normal cells. Over 900 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. Karyopharm has initiated four registration-directed clinical trials of selinexor, including one in older patients with acute myeloid leukemia (SOPRA), one in patients with Richter's transformation (SIRRT) and one in patients with diffuse large B-cell lymphoma (SADAL). A single-arm trial of selinexor in patients with multiple myeloma (STORM) that is also intended to be registration-directed was initiated in May 2015. In solid tumors, Karyopharm plans to initiate a registration-directed trial of selinexor to treat liposarcoma during the second half of 2015. 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 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 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 activity against a variety of different human cancers, SINE™ compounds have also shown biological activity in models of cancer, inflammation, autoimmune disease, certain viruses, 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) or any PAK4 inhibitor, 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, 2015, which is on file with the Securities and Exchange Commission (SEC) as of May 11, 2015, 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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