Karyopharm Announces a Phase 1 Trial of Selinexor (KPT-330) in Pediatric Patients With Relapsed Acute Lymphoblastic Leukemia (ALL) and Acute Myeloid Leukemia (AML)

NATICK, Mass., April 21, 2014 (GLOBE NEWSWIRE) -- Karyopharm Therapeutics Inc. (Nasdaq:KPTI), 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, today announced the initiation of its first pediatric clinical study, a Phase 1 trial of its novel, oral Selective Inhibitor of Nuclear Export (SINE) compound Selinexor (KPT-330) in pediatric patients. The trial will enroll up to 28 children with relapsed or refractory acute lymphoblastic leukemia (ALL) or acute myeloblastic leukemia (AML). The study is being led by Dana-Farber/Boston Children's Cancer and Blood Disorders Center under the direction of principal investigator Andrew Place, MD, PhD, Associate Director of Developmental Therapeutics, and has been partially funded by a grant from the William Lawrence & Blanche Hughes Foundation (clinicaltrials.gov: NCT02091245).

Dr. Place stated, "We are very pleased to initiate this first-in-pediatric patient study of selinexor in our patients with relapsed or refractory acute leukemias. While many of our pediatric patients with these diseases are cured with currently available agents, there remains a significant minority of patients whose disease is resistant to standard chemotherapy. This trial aims to determine the oral dosing, toxicity and preliminary clinical activity of selinexor in pediatric leukemia patients. We hope to learn if further clinical development of this new agent will help children with high-risk malignancies."

Preclinical results from Dr. Julia Etchin in Dr. Thomas Look's laboratory at Dana-Farber Cancer Institute (DFCI), as well as other laboratories, have shown that Selinexor, a SINE compound that covalently inhibits the nuclear export protein XPO1 (exportin 1, also called CRM1), has potent anti-AML and anti-ALL activity *in vitro* and *in vivo*. This activity is associated with enhancement of nuclear levels of tumor suppressor proteins, leading to the selective apoptosis of neoplastic cells. In addition, Dr. Look and colleagues have shown that Selinexor can kill leukemia initiating (stem) cells, which are highly resistant to standard anti-leukemia treatments *in vitro* and in animal models. Oral Selinexor has shown single agent anti-leukemic activity in adult patients with heavily pretreated, relapsed/refractory AML. Studies in adults with refractory ALL have also been initiated.

Dr. Thomas Look, Professor of Pediatrics at Harvard Medical School and Vice Chair for Research in Pediatric Oncology at DFCI, commented, "In pre-clinical research, selinexor showed potent and selective anti-leukemic activity. Unlike many agents, it can induce cell death in both myeloid and lymphoid leukemic cells, while sparing normal hematopoietic cells. In addition, we recently showed that selinexor is toxic to leukemia-initiating cells and look forward to learning if it may help reduce or eradicate chemotherapy-resistant leukemia cells in patients with disease resistant to currently available therapy. We are very excited that our pre-clinical laboratory work in both AML and ALL is translating into this clinical trial, and we thank the William Lawrence & Blanche Hughes Foundation for their generous donation in support of both the laboratory work and now the clinical study."

Sharon Shacham, PhD, MBA, Karyopharm's founder, President and Chief Scientific Officer commented, "This first pediatric clinical trial of Selinexor represents a significant milestone for the company. The William Lawrence & Blanche Hughes Foundation has awarded a generous grant towards this study, underscoring the foundation's commitment to pediatric patients."

About Selinexor

Selinexor (KPT-330) is a first-in-class, oral Selective Inhibitor of Nuclear Export (SINE) compound. Selinexor functions by binding with 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. To date, over 290 patients have been treated with Selinexor in Phase 1 trials in advanced hematologic malignancies and solid tumors. Additional Phase 1 and Phase 2 studies are ongoing or currently planned and three registration-directed clinical trials in hematological indications are expected to begin enrollment during 2014. 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. SINE compounds have shown biological activity in models of cancer, autoimmune disease, certain viruses, and wound-healing. Karyopharm was founded by Dr. Sharon Shacham and is located in Natick, Massachusetts.

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 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 Annual Report on Form 10-K for the year ended December 31, 2013, which is on file with the Securities and Exchange Commission (SEC), 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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