

Karyopharm Reports Updated Data from the Phase 2b SADAL Study at the 2019 International Conference on Malignant Lymphoma

**-- Single-Agent Oral Selinexor Induces a 28.3% Overall Response Rate, Including a 10.2% Complete Response Rate --
-- Amongst Patients with a Complete or Partial Response, Median Duration of Response was 9.2 Months --**

NEWTON, Mass., June 19, 2019 (GLOBE NEWSWIRE) -- Karyopharm Therapeutics Inc. (Nasdaq:KPTI), a clinical-stage pharmaceutical company, today reported updated results from the Phase 2b SADAL (Selinexor Against Diffuse Aggressive Lymphoma) study evaluating selinexor, the Company's first-in-class, oral Selective Inhibitor of Nuclear Export (SINE) compound, in patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL) after at least two prior multi-agent therapies and who are ineligible for transplantation, including high dose chemotherapy with stem cell rescue and CAR-T (chimeric antigen receptor modified T cell) therapy. The data were highlighted in an oral presentation at the 2019 International Conference on Malignant Lymphoma (ICML) being held June 18-22, 2019, in Lugano, Switzerland.

Top-line results for the SADAL study were previously presented at the American Society of Hematology (ASH) 2018 Annual Meeting in December 2018. The results being presented at ICML remain consistent with those reported at ASH and include efficacy results from the final 12 patients who had not reached their first response assessment in time to be included in the previously released top-line efficacy analyses. For the SADAL study's primary endpoint, single-agent selinexor achieved an overall response rate (ORR) of 28.3%. Two additional patients achieved a complete response (CR) since the ASH presentation for a total of 13 CRs and a CR rate of 10.2% in these patients with heavily pretreated relapsed or refractory DLBCL. Key secondary endpoints included a median duration of response (DOR) in the responding patients of 9.2 months and median overall survival (OS) across the entire study population of 9.0 months.

"Single-agent oral selinexor continues to demonstrate encouraging response rates in these heavily pretreated patients with DLBCL who have received two or more prior therapies and are not eligible for transplantation or CAR-T therapy, and have limited therapies available to treat their disease," said Sharon Shacham, PhD, MBA, President and Chief Scientific Officer of Karyopharm. "We look forward to sharing these data with the U.S. and European regulatory authorities and plan to seek regulatory approval of selinexor as a potential new therapeutic option for patients battling highly refractory DLBCL."

Karyopharm expects to submit a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) and a Marketing Authorization Application (MAA) to the European Medicines Agency (EMA) in the first half of 2020. These submissions will include requests for accelerated approval and conditional approval, respectively, of selinexor as a treatment for patients with relapsed or refractory DLBCL after at least two prior multi-agent therapies and who are ineligible for stem cell transplantation, including CAR-T therapies. In addition to Orphan Drug Designation, selinexor was granted Fast Track designation by the FDA in 2018 for the patient population evaluated in the SADAL study.

Updated Phase 2b SADAL Results

Among the 127 patients (median of 2 prior treatment regimens with a range 1-6) who were evaluable for response, as adjudicated by an independent central radiological committee, 36 patients responded (13 CRs and 23 partial responses (PRs)) for an ORR of 28.3%. An additional 11 patients experienced stable disease (SD) for a disease control rate of 37.0%. Selinexor also demonstrated deep and durable responses in patients with either GCB or non-GCB subtypes of DLBCL: the ORR in the 59 patients with the GCB-subtype was 33.9% and the ORR was 20.6% in the 63 patients with the non-GCB subtype. In addition, there were 5 patients enrolled whose subtype was unclassified and 1 of these patients achieved a CR while 2 of these patients achieved a PR.

The median DOR across responding patients was 9.2 months and responses tended to occur rapidly. Median OS for the entire patient population was 9.0 months while median OS has not yet been reached in patients who achieved either a CR or PR. Patients whose disease progressed or had no response to selinexor had a median OS of 4.1 months, which is consistent with the expected poor prognosis for patients who have relapsed or refractory DLBCL and have been previously treated with 2 or more lines of therapy.

All 127 patients were included in the safety analyses. The most common treatment-related adverse events (AEs) were cytopenias along with gastrointestinal and constitutional symptoms and were generally reversible and managed with dose modifications and/or standard supportive care. The most common non-hematologic AEs were nausea (52.8%), fatigue (37.8%), and anorexia (34.6%) and were mostly Grade 1 and 2 events. As expected, the most common Grade 3 and 4 AEs were thrombocytopenia (39.4%), neutropenia (20.5%) and anemia (13.4%) and were generally not associated with clinical sequelae.

Details for the ICML 2019 oral presentation are as follows:

Title: A Phase 2b Study of Selinexor in Patients with Relapsed/Refractory (R/R) Diffuse Large B-Cell Lymphoma (DLBCL): SADAL Trial

Lead author: Nagesh Kalakonda, University of Liverpool

Abstract #: 031

Session: Focus On: Results from Single-Agent Trials

Date and Time: Wednesday, June 19, 2019; 17:25 – 17:45 CEST

Location: Auditorium (USI Università)

About Selinexor

Selinexor 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. In 2018, Karyopharm reported positive data from the Phase 2b STORM study evaluating selinexor in combination with low-dose dexamethasone in patients with triple class refractory multiple myeloma who have been previously exposed to all five of the most commonly prescribed anti-myeloma therapies currently available. Selinexor has been granted Orphan Drug Designation in multiple myeloma and Fast Track designation for the patient population evaluated in the STORM study. Karyopharm's New Drug Application (NDA) seeking accelerated approval has been accepted for filing and granted Priority Review by the FDA, and oral selinexor is currently under review by the FDA as a possible new treatment for patients based on data from the STORM study. The Company has also submitted a Marketing Authorization Application (MAA) to the European Medicines Agency (EMA) with a request for conditional approval. Selinexor is also being studied in patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL). In 2018, Karyopharm reported positive top-line results from the Phase 2b SADAL study evaluating selinexor in patients with relapsed or refractory DLBCL after at least two prior multi-agent therapies and who are ineligible for transplantation, including high dose chemotherapy with stem cell rescue. Selinexor has received Fast Track designation from the FDA for the patient population evaluated in the SADAL study. Selinexor is also being evaluated in several other mid-and later-phase clinical trials across multiple cancer indications, including in multiple myeloma in a pivotal, randomized Phase 3 study in combination with Velcade® (bortezomib) and low-dose dexamethasone (BOSTON), as a potential backbone therapy in combination with approved therapies (STOMP), in liposarcoma (SEAL), and an investigator-sponsored study in endometrial cancer (SIENDO), among others. Additional Phase 1, Phase 2 and Phase 3 studies are ongoing or currently planned, including multiple studies in combination with approved therapies in a variety of tumor types to further inform Karyopharm's clinical development priorities for selinexor. Additional 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 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, certain viruses and wound-healing. Karyopharm, which was founded by Dr. Sharon Shacham, currently has several investigational programs in clinical or preclinical development. 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 our expectations relating to submissions to, and the review and potential approval of selinexor by, regulatory authorities, including the anticipated timing of such submissions and actions, and the potential availability of accelerated approval pathways, the therapeutic potential of and potential clinical development plans for Karyopharm's drug candidates, especially selinexor, and the plans for commercialization. Such statements are subject to numerous important factors, risks and uncertainties, many of which are beyond Karyopharm's control, that may cause actual events or results to differ materially from Karyopharm's current expectations. For example, there can be no guarantee that regulators will agree that selinexor qualifies for accelerated approval in the U.S. or conditional approval in the E.U. as a result of our clinical data, including the data from the STORM study or the SADAL study in patients with relapsed or refractory DLBCL, or that any of Karyopharm's drug candidates, including selinexor, will successfully complete necessary 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, including with respect to the need for additional clinical studies; 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, 2019, which was filed with the Securities and Exchange Commission (SEC) on May 9, 2019, 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, except as required by law, 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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