Karyopharm Presents Updated Phase 1b STOMP Data at the American Society of Hematology 2016 Annual Meeting

- STOMP Data Continues to Demonstrate High Response Rates in Patients with Heavily Pretreated Multiple Myeloma When Selinexor Is Combined with Bortezomib and Pomalidomide -
- Company to Host Dinner Reception and Webcast Event with Interactive Expert Panel Discussion on Monday, December 5, 2016 at 8:15 p.m. PT -

NEWTON, Mass., Dec. 05, 2016 (GLOBE NEWSWIRE) -- Karyopharm Therapeutics Inc. (Nasdaq:KPTI), a clinical-stage pharmaceutical company, today announced updated results from the Phase 1b dose-escalation portion of its ongoing STOMP study showing high response rates when selinexor (KPT-330) is combined with the proteasome inhibitor bortezomib (Velcade®), including in patients with multiple myeloma (MM) that was previously refractory to proteasome inhibitors, at the American Society of Hematology (ASH) 2016 annual meeting held December 3-6, 2016 in San Diego. Other key presentations at the meeting described clinical data demonstrating the activity of selinexor in combination with carfilzomib (Kyprolis®) and pomalidomide (Pomalyst®) in MM, as well as selinexor with dexamethasone in quad- and penta-refractory MM in the STORM trial. Selinexor is the Company's lead, novel, oral Selective Inhibitor of Nuclear Export (SINE™) compound, in development for the treatment of a variety of malignancies, including MM and acute myeloid leukemia (AML).

"Data from the STOMP study continue to show very high response rates and good tolerability in patients with heavily pretreated myeloma, most of whom have disease refractory to proteasome inhibitors as well as immunomodulatory drugs," said Sharon Shacham, PhD, MBA, President and Chief Scientific Officer of Karyopharm. "Overall, the body of data presented this year at ASH builds upon the evidence of clear synergistic activity observed when selinexor is combined with standard myeloma agents, including proteasome inhibitors such as bortezomib or carfilzomib and immunomodulatory agents such as pomalidomide. Looking ahead, our efforts remain focused on executing the STORM trial expansion, which is evaluating selinexor in patients with penta-refractory myeloma, and on commencing our planned pivotal Phase 3 BOSTON study in early 2017, which will evaluate selinexor in combination with bortezomib and dexamethasone in patients with MM previously treated with one to three treatment regimens."

Updated Phase 1b STOMP Clinical Data in Relapsed or Refractory Multiple Myeloma

In an oral presentation titled, "Selinexor in Combination with Bortezomib and Dexamethasone Demonstrates Significant Activity in Patients with Refractory Multiple Myeloma Including Proteasome-Inhibitor Refractory Patients," Nizar Bahlis, MD, Assistant Professor of Hematology, Southern Alberta Cancer Research Institute, presented updated clinical data from the selinexor + Velcade (bortezomib) + dexamethasone (SVd) arm of the ongoing Phase 1b/2 STOMP study in patients with heavily pretreated relapsed/refractory MM.

A summary of data from all 22 patients in the dose-escalation cohorts receiving selinexor in combination with Velcade and dexamethasone treated as of November 30, 2016 is outlined in the following table and described below. The patients in this cohort were heavily pretreated and the majority (68%) had MM refractory to the proteasome inhibitors bortezomib and/or carfilzomib. Selinexor was given once or twice weekly, and 19 of the 22 patients received once weekly Velcade subcutaneously as initial treatment; three patients initially received twice weekly Velcade but this was reduced to once weekly after one cycle. All 22 patients were evaluable for response and 11 patients were continuing on study as of the data cutoff date.

Phase 1b STOMP Study (Selinexor + Velcade (Bortezomib) + Dexamethasone Arm) as of 30-Nov-2016

Prior PI Status	N	ORR (%)	CBR (%)	sCR (%)	CR (%)	VGPR (%)	PR (%)	MR (%)	SD (%)	PD (%)
Refractory (7 Bortezomib, 3 Carfilzomib, 2 Ixazomib)	15	10 (67%)	13 (87%)	1 (7%)	1 (7%)	2 (13%)	6 (40%)	3 (20%)	1 (7%)	1 (7%)
Not Refractory (Exposed or Naïve)	7	7 (100%)	7 (100%)	--	1 (14%)	2 (29%)	4 (57%)	--	--	--
All	22	17 (77%)	20 (91%)	1 (5%)	2 (9%)	4 (18%)	10 (45%)	3 (14%)	1 (5%)	1 (5%)

ORR=Overall Response Rate (sCR+CR+VGPR+PR), CBR=Clinical Benefit Rate (sCR+CR+VGPR+PR+MR), sCR=Stringent Complete Response, CR=Complete Response,
VGPR=Very Good Partial Response, PR=Partial Response, R=Minor Response, SD=Stable Disease, PD=Progressive Disease

Of the 22 patients enrolled in the SVd combination arm (median of four prior treatment regimens (range 1-11)), 17 responded (1 patient with a stringent complete response (sCR), 2 patients with a complete response (CR), 4 patients with a very good partial response (VGPR) and 10 patients with a partial response (PR)) for an overall response rate (ORR) of 77%. An additional 3 patients experienced a minor response (MR), for a clinical benefit rate (CBR) of 91%. Only 1 patient had progressive disease. All 7 patients whose disease was not refractory to a PI responded (1 patient with a CR, 2 patients with a VGPR and 4 patients with a PR) for an ORR and CBR of 100%. Fifteen of the 22 patients in the SVd combination arm had MM previously refractory to a proteasome inhibitor and 9 patients had high-risk cytogenetics including deletion of chromosome 17p. Ten of these 15 patients responded (1 patient with a sCR, 1 CR, 2 VGPR and 6 PR) for an ORR of 67%. Three additional patients achieved an MR for a CBR of 87% in this subgroup with PI-refractory disease. Median duration of response (DOR) was 7.8 months.

The recommended Phase 2 dose (RP2D) regimen was identified as selinexor (100mg once weekly), bortezomib (1.3 mg/m2 weekly given subcutaneously for 4 of 5 weeks) and dexamethasone (40mg weekly). An additional 10 patients have been enrolled into the expansion cohort at the RP2D. Although early (median of two cycles), all but one of these patients is responding and tolerability is similar to that observed in the escalation cohort.

The most commonly reported adverse events from the RP2D were fatigue, nausea, anorexia and vomiting, which were primarily grade 1 and reversible. Grade 3 adverse events included fatigue, diarrhea, thrombocytopenia and abdominal pain and each occurred at a rate of 6% (n=1). The only Grade 4 adverse event was thrombocytopenia and occurred at a rate of 12% (n=2).

"The response rates reported to date in the STOMP study are very encouraging. With a 77% overall response rate in this population and most with proteasome-inhibitor refractory disease, the synergistic effects of selinexor in combination with bortezomib are among the most potent reported to date," said Dr. Bahlis. "By contrast, the expected overall response rate for the combination of bortezomib and dexamethasone in patients with previously treated myeloma that is not refractory to proteasome inhibitors is approximately 50%, and less

than 10% for those with disease refractory to proteasome inhibitors. Based on these data, I look forward to the initiation of the pivotal Phase 3 BOSTON study in early 2017 to further evaluate and confirm these findings."

Additional Multiple Myeloma Data Presented at ASH 2016

The following is a summary of other key MM abstracts that were presented at ASH on December 4 and 5, 2016:

Poster Title: Selinexor Shows Synergy in Combination with Pomalidomide and Low Dose Dexamethasone in Patients with Relapsed / Refractory Multiple Myeloma
Presenter: Christine Chen, Princess Margaret Hospital, Toronto, ON
Publication ID: 3330
Date and Time: Sunday, December 4, 2016; 6:00-8:00 p.m. PT
Summary: In this study, selinexor demonstrates impressive activity in combination with pomalidomide (Pomalyst®) in patients with MM that is refractory to one or more PIs and/or lenalidomide. Of the 15 evaluable patients in the SPd combination arm (median of five prior treatment regimens (range 2-9), 9 responded (3 VGPR) and 6 PR) for an ORR of 60%. An additional 2 patients achieved an MR for a CBR of 73%. Only 1 patient had progressive disease. Five of the 15 patients had high-risk cytogenetics including deletion of chromosome 17p. Median progression-free survival (PFS) was 10.3 months, with a follow up of 7.6 months. The most common adverse events were anorexia, nausea, fatigue, and thrombocytopenia, mainly grades 1 and 2, and were similar to selinexor or pomalidomide used separately.

Oral Presentation Title: Final Results of Phase 1 MMRC Trial of Selinexor, Carfilzomib, and Dexamethasone in Relapsed/Refractory MM
Presenter: Andrzej Jakubowiak, University of Chicago
Publication ID: 973
Date and Time: Monday, December 5, 2016; 2:45 p.m. PT
Summary: This Phase 1 study, which is sponsored by the Multiple Myeloma Research Foundation (MMRF), evaluated the combination of selinexor and proteasome inhibitor (PI) carfilzomib (Kyprolis®) and dexamethasone in patients with relapsed/refractory MM (RRMM). The combination achieved a 63% overall response rate and a 67% response rate in patients refractory to carfilzomib, most having progressed on the combination of carfilzomib, pomalidomide and dexamethasone as their last line of therapy. The selinexor, carfilzomib and dexamethasone combination appears safe and has acceptable tolerability in patients with RRMM, with the most commonly reported adverse events of thrombocytopenia and neutropenia, which are manageable with dose modifications. These results provide early clinical evidence that the addition of selinexor has the ability to overcome carfilzomib resistance, warranting further investigation of the regimen.

Poster Title: A Phase 1/2 Study of the Second Generation Selective Inhibitor of Nuclear Export Compound, KPT-8602, in Patients with Relapsed Refractory MM
Presenter: Frank Cornell, Vanderbilt Ingram Cancer Center, Nashville, TN
Publication ID: 4509
Date and Time: Monday, December 5, 2016; 6:00-8:00 p.m. PT
Summary: Data from this ongoing Phase 1/2 study demonstrate that oral KPT-8602 is well-tolerated in heavily pretreated patients with relapsed or refractory MM and shows early signs of efficacy.

Karyopharm to Host Multiple Myeloma-focused Dinner Reception and Webcast at ASH 2016

On Monday, December 5, 2016, Karyopharm will host an investor and analyst dinner reception, which will feature a moderated panel discussion with recognized experts in the treatment of MM, updated selinexor data in MM, and a live Q&A session. Confirmed external speakers include:

- Daniel Auclair, PhD (Moderator), *Multiple Myeloma Research Foundation*
- Nizar Bahlis, MD, *University of Calgary, Southern Alberta Cancer Research Institute*
- Paul G. Richardson, MD, *Dana Faber Cancer Institute, Jerome Lipper Multiple Myeloma Center*
- Ravi Vij, MD, MBA, *Washington University School of Medicine in St. Louis, Oncology Division*
- Dan T. Vogl, MD, *Abramson Cancer Center Clinical Research Unit, University of Pennsylvania*

In addition, Michael Kauffman, MD, PhD, CEO of Karyopharm Therapeutics, will be joining.

The event will take place during the ASH 2016 annual meeting and interested parties can access a live webcast of the event beginning Monday, December 5, 2016 at 8:15 p.m. PT under "Events & Presentations" in the "Investors" section of the company's website at http://investors.karyopharm.com/events.cfm. A replay of the webcast will be archived on the company's website for 90 days following the event.

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. To date, over 1,800 patients have been treated with selinexor and it is currently being evaluated in several mid- and later-phase clinical trials across multiple cancer indications, including in multiple myeloma in combination with low-dose dexamethasone (STORM) and backbone therapies (STOMP), and in acute myeloid leukemia (SOPRA), diffuse large B-cell lymphoma (SADAL), and liposarcoma (SEAL), among others. Karyopharm plans to initiate a pivotal randomized Phase 3 study of selinexor in combination with bortezomib (Velcade®) and low-dose dexamethasone (BOSTON) in patients with multiple myeloma in early 2017. Additional Phase 1, Phase 2 and Phase 3 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 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 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), 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, 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 September 30, 2016, which was filed with the Securities and Exchange Commission (SEC) on November 7, 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.

Contacts:

Justin Renz
(617) 658-0574
jrenz@karyopharm.com

Gina Nugent
(617) 460-3579
nugentcomm@aol.com

Media covering ASH 2016:
Eliza Schleifstein
(917) 763-8106
eliza@argotpartners.com
