

News Release

Geron Initiates Randomized Phase 2 Clinical Trial of Imetelstat in Non-Small Cell Lung Cancer

Telomerase Inhibitor as Maintenance Therapy Targets Cancer Stem Cells

MENLO PARK, Calif., July 19, 2010 - Geron Corporation (Nasdaq: GERN) today announced enrollment of the first patient in a randomized Phase 2 clinical trial of its telomerase inhibitor drug, imetelstat (GRN163L), as maintenance therapy following platinum-based induction therapy for patients with non-small cell lung cancer (NSCLC).

"Initiating our first randomized Phase 2 clinical trial of imetelstat is a major milestone for Geron's Oncology program," said Stephen M. Kelsey, M.D., Geron's executive vice president and chief medical officer, oncology. "We are now poised to apply what we learned clinically from our Phase 1 program as well as leverage recent preclinical results showing imetelstat's activity against a broad range of cancer stem cell types, including those from NSCLC."

"We are excited to be involved in the Phase 2 trial of imetelstat," said Joan H. Schiller, M.D., chief, division of hematology and oncology at the University of Texas Southwestern Medical Center and lead investigator for the trial. "Maintenance therapy with a telomerase inhibitor is an attractive approach to potentially reduce the cancer stem cell population after initial debulking of the tumor by chemotherapy. We look forward to assessing imetelstat in this setting."

Phase 2 Trial Design

The trial is an open label, multi-center, randomized Phase 2 clinical trial to test the efficacy and safety of maintenance treatment with imetelstat in addition to standard of care versus standard of care alone in patients with advanced (stage IIIB or IV) NSCLC, who have not progressed after completing first-line induction chemotherapy.

Induction treatment consists of four cycles of platinum-based doublet chemotherapy with or without bevacizumab. Post induction standard of care is either observation or continuation of bevacizumab treatment. Bevacizumab is standard of care in the U.S. for certain NSCLC patients with non-squamous histology.

Patients are randomly assigned in a 2:1 ratio to receive either imetelstat in addition to standard of care or standard of care only and stratified according to bevacizumab treatment during induction therapy. Imetelstat is administered at a dose of 9.4 mg/kg on days one and eight of a 21 day treatment cycle. The dose and dosing schedule were established during the prior Phase 1 clinical trial of imetelstat as a single agent in solid tumors.

The primary efficacy endpoint for the Phase 2 trial is the estimate of median progression-free survival for patients receiving imetelstat as maintenance therapy. Secondary efficacy endpoints are objective response and time to all-cause mortality. Safety and tolerability of imetelstat will also be assessed.

Exploratory endpoints include evaluation of potential biomarkers for predicting clinical outcome from imetelstat therapy.

Enrollment is estimated at 96 patients from approximately 20 clinical sites across the U.S. For further information, including a list of clinical sites that are participating in this trial, please visit the NIH clinical trials website at <http://clinicaltrials.gov/ct2/show/NCT01137968?term=imetelstat&rank=1>.

Rationale for the Trial

Phase 1 clinical trials using imetelstat have documented the drug's safety profile. Preclinical studies have shown imetelstat's anti-tumor activity and activity against nine different cancer stem cell types.

The NSCLC Phase 2 clinical trial is designed to test the effects of imetelstat on delaying or preventing tumor regrowth following debulking chemotherapy by targeting cancer stem cells. Tumor regrowth relies primarily on the proliferation of cancer stem cells, which show resistance to many conventional chemotherapeutic agents and are capable of indefinite self-renewal because of high telomerase activity.

Preclinically, imetelstat has exhibited potent activity against cancer stem cells derived from primary patient samples or cancer cell lines from all tumor types tested to date, including NSCLC cell lines. These data were presented at the 2010 AACR Special Conference on The Role of Telomeres and Telomerase in Cancer Research. Studies in xenograft models of NSCLC showed that imetelstat treatment inhibited telomerase, reduced tumor growth and increased survival in a model of metastasis. In addition, the combination of imetelstat and bevacizumab was shown to have a greater inhibitory effect on tumor growth than with either imetelstat or bevacizumab as single agents.

Imetelstat has been tested in six Geron-sponsored Phase 1 clinical trials at 22 U.S. medical centers treating over 180 patients examining the safety, tolerability, pharmacokinetics and pharmacodynamics of the drug, alone or in combination with other standard therapies, in patients with different hematological and solid tumors. The Phase 2 single agent dose of 9.4 mg/kg and treatment on days one and eight of a 21 day cycle were established as a result of the Phase 1 trial of imetelstat as a single agent in solid tumors. In that study, exposure to imetelstat achieved during the treatment period with doses of 7.5mg/kg and above was higher than the exposure required for efficacy in preclinical models. Selected tissue samples from patients in the Phase 1 trials have shown preliminary evidence of telomerase inhibition.

About Lung Cancer

Lung cancer is the leading cause of cancer death worldwide. Estimates for lung cancer in the United States for 2009 predicted over 219,000 new cases and 159,000 deaths from the disease. Non-small cell lung cancer (NSCLC) represents more than 85% of lung cancer cases, with the majority being diagnosed in advanced stages. Approximately 15% of patients in the U.S. with NSCLC will survive five years, reflecting the limited potential of currently available therapies.

About Telomerase and Imetelstat (GRN163L)

Telomerase is a critical and broadly applicable tumor target. The enzyme is expressed in a wide range of malignant tumors, and its activity is essential for the indefinite replicative capacity of cancer that enables malignant cell growth. Telomerase has now also been shown to be a target for cancer stem cells. Telomerase is absent or expressed only transiently at low levels in most normal adult tissues.

Imetelstat is a lipidated short chain oligonucleotide that binds with high affinity and specificity to the catalytic site of telomerase, resulting in competitive inhibition of enzyme activity. Proprietary manufacturing chemistry and the addition of a 5' lipid chain have enabled the molecule to penetrate cells and tissues throughout the body.

Imetelstat has demonstrated anti-tumor effects in a wide range of preclinical xenograft models of human hematological and solid tumors, and potent activity against cancer stem cells derived from primary patient samples or cancer cell lines from multiple tumor types.

Two randomized Phase 2 clinical trials of imetelstat are planned to start this year in non-small cell lung and breast cancer, and two single arm Phase 2 clinical trials are planned in multiple myeloma and essential thrombocythemia - all malignancies in which cancer stem cells have been shown to play an important role in relapse after standard therapy.

About Geron

Geron is developing first-in-class biopharmaceuticals for the treatment of cancer and chronic degenerative diseases, including spinal cord injury, heart failure and diabetes. The company is advancing an anti-cancer drug and a cancer vaccine that target the enzyme telomerase through multiple clinical trials in different cancers. For more information about Geron, visit www.geron.com.

This news release may contain forward-looking statements made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Investors are cautioned that statements in this press release regarding potential applications of Geron's telomerase and oncology technology constitute forward-looking statements that involve risks and uncertainties, including, without limitation, risks inherent in the development and commercialization of potential products, uncertainty of clinical trial results or regulatory approvals or clearances, need for future capital, dependence upon collaborators and maintenance of our intellectual property rights. Actual results may differ materially from the results anticipated in these forward-looking statements. Additional information on potential factors that could affect our results and other risks and uncertainties are detailed from time to time in Geron's periodic reports, including the annual report on Form 10-Q for the quarter ended March 31, 2010.

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