Geron Reports Ten Imetelstat Presentations at American Society of Hematology Annual Meeting

- Data and analyses highlight the differentiating clinical benefits of imetelstat treatment observed in both the Phase 2 IMerge and IMbark trials
- Additional clinical analyses and data presented on the depletion of abnormal clones and disease mutations strongly suggest that imetelstat has disease-modifying activity
- Biomarker data on reductions in telomerase activity and hTERT expression correlated with clinical outcomes provides evidence of on-target activity of imetelstat
- All ten abstracts submitted were accepted for presentation
- Presentations provide further support of ongoing and upcoming Phase 3 clinical trials of imetelstat

FOSTER CITY, Calif., December 7, 2020 -- Geron Corporation (Nasdaq: GERN), a late-stage clinical biopharmaceutical company, today announced that four oral presentations and six poster presentations containing clinical data and analyses related to imetelstat, the Company's first-in-class telomerase inhibitor, were presented at the 62nd American Society of Hematology (ASH) Annual Meeting. The presentations are available at www.geron.com/r-d/publications.

"Our imetelstat presentations at this year's ASH provide strong support for our two registration-enabling Phase 3 clinical trials: IMerge, in lower risk MDS and IMpactMF, in refractory MF," said Aleksandra Rizo, M.D., Ph.D., Geron's Chief Medical Officer. "We believe the analyses and data from our Phase 2 IMerge and IMbark trials provide strong evidence of imetelstat's disease-modifying activity, as well as clinical benefits of durable transfusion independence in MDS and improvement in overall survival in MF."

Lower Risk Myelodysplastic Syndromes (MDS) – Oral Presentation

Title: ***Treatment with Imetelstat Provides Durable Transfusion Independence (TI) in Heavily Transfused Non-del(5q) Lower Risk MDS (LR-MDS) Relapsed/Refractory (R/R) to Erythropoiesis Stimulating Agents (ESAs)*** (Abstract #658)

The oral presentation reported long-term efficacy, safety and biomarker data from 38 patients in the IMerge Phase 2 clinical trial, based on a February 4, 2020 cut-off date and a median follow-up of 24 months. Consistent with prior presentations, 42% of patients achieved ≥8-week red blood cell transfusion independence (RBC-TI) with a median duration of 20 months, which is the longest so far reported with any agent in relapsed/refractory non-del(5q) lower risk MDS. In addition, 29% of patients were transfusion free more than a year. Reduction in the SF3B1 mutation, one of the key mutations correlated with ineffective erythropoiesis in lower risk MDS, correlated with longer transfusion independence and shorter onset to achieve transfusion independence. These biomarker data together with the durability of transfusion independence provide evidence for the disease-modifying activity of imetelstat. These data were previously presented at the European Hematology Association (EHA) Annual Congress in June.

Relapsed/Refractory Myelofibrosis (MF) – Three Oral Presentations

Title: ***Potential Disease-Modifying Activity of Imetelstat Demonstrated By Reduction in Cytogenetically Abnormal Clones and Mutation Burden Leads to Clinical Benefits in Relapsed/Refractory Myelofibrosis Patients*** (Abstract #346)

This oral presentation reported significant dose-dependent reduction of mutation burden by imetelstat, including complete elimination of mutations in MF driver and non-driver genes. A greater than 20% reduction in variant allele frequency by imetelstat treatment correlated with improved clinical benefits, including higher rates of spleen and symptom responses, bone marrow fibrosis improvement and longer overall survival (OS). As concluded in the

presentation, imetelstat demonstrated disease-modifying activity by targeting malignant clones, improvement in bone marrow fibrosis and OS.

Title: ***Telomerase Activity, Telomere Length and hTERT Expression Correlate with Clinical Outcomes in Higher-Risk Myelofibrosis (MF) Relapsed/Refractory (R/R) to Janus Kinase Inhibitor Treated with Imetelstat*** (Abstract #347)

This oral presentation reported dose-dependent inhibition of telomerase, as evaluated by reductions in telomerase activity, human reverse transcriptase (hTERT) levels and telomere length in patients treated with imetelstat in the IMbark Phase 2 clinical trial. Analyses of these biomarker data correlated with clinical responses and longer OS. In addition, dose-dependent reduction in variant allele frequency of driver mutations was noted, indicating that imetelstat has disease-modifying activity by targeting the underlying MF malignant clones. As expected for a telomerase inhibitor, treatment with imetelstat at 9.4 mg/kg improved clinical outcomes in patients with shorter telomeres and higher hTERT expression at baseline. These data are consistent with telomere biology in cancer cells and provide evidence for on-target mechanism of action of imetelstat through telomerase inhibition. These results were previously reported as a poster presentation at the EHA Annual Congress in June.

Title: ***Favorable Overall Survival with Imetelstat Treatment Correlates with Other Clinical Benefits in Intermediate-2 or High-Risk Myelofibrosis Relapsed/Refractory to Janus Kinase Inhibitor*** (Abstract #53)

This oral presentation reported the correlation of overall survival results from the IMbark Phase 2 with clinical benefits observed with imetelstat treatment. The correlation analyses showed a trend of longer OS in patients who achieved symptom response, spleen volume reductions ranging from $\geq$ 10% to $\geq$ 35%, and statistically significant improvement in OS in patients with improved bone marrow fibrosis, in a dose-dependent manner. These results were previously reported as a poster presentation at the EHA Annual Congress in June.

Relapsed/Refractory Myelofibrosis (MF) – Three Poster Presentations

Collectively, these poster presentations described on-target and disease-modifying activity of the higher dose of imetelstat from the IMbark Phase 2, and how that relates to better clinical outcomes, including OS, fibrosis improvement and symptom response, especially in a subset of patients defined as triple negative MF, known to have poor outcome.

Title**:** ***Correlation Analyses of Imetelstat Exposure with Pharmacodynamic Effect, Efficacy and Safety in A Phase 2 Study in Patients with Higher-risk Myelofibrosis Refractory to Janus Kinase Inhibitor Identified an Optimal Dosing Regimen for Phase 3 Study*** (Abstract #1283)

Title: ***Imetelstat Treatment Results in Clinical Benefits, Including Improved Overall Survival, in Patients with Higher-Risk Triple Negative Myelofibrosis Relapsed/Refractory to Janus Kinase Inhibitors (JAKi)*** (Abstract #3084)

Title: ***Treatment with Imetelstat Improves Myelofibrosis-Related Symptoms and Other Patient-Reported Outcomes in Patients with Relapsed or Refractory Higher-Risk Myelofibrosis*** (Abstract #3088)

Myeloproliferative Neoplasms (MPN) – Poster Presentation

Title**:** ***Imetelstat Inhibits Telomerase and Prevents Propagation of ADAR1-Activated Myeloproliferative Neoplasm and Leukemia Stem Cells*** (Abstract #1264)

Collaborators at UC San Diego reported non-clinical data on hTERT and ADAR1 activity in pre-leukemia stem cells and leukemia stem cells (LSC). In various lab experiments and animal models, treatment with imetelstat prevented pre-leukemia stem cells from evolving into LSCs, suggesting telomerase inhibition may be an effective strategy for preventing MPN progression.

Two Trials in Progress Poster Presentations – Ongoing IMerge Phase 3 and Upcoming IMpactMF Phase 3

Title: ***IMerge: A Phase 3 Study to Evaluate Imetelstat in Transfusion-Dependent Subjects with IPSS Low or Intermediate-1 Risk Myelodysplastic Syndromes (MDS) that is Relapsed/Refractory to Erythropoiesis-Stimulating Agent (ESA) Treatment*** (Abstract #3113)

The IMerge Phase 3 clinical trial is a double-blind, randomized, placebo-controlled clinical trial with registration intent. The trial is designed to enroll approximately 170 transfusion dependent patients with Low or Intermediate-1 risk myelodysplastic syndromes (MDS), also referred to as lower risk MDS, who have relapsed after or are refractory to prior treatment with an erythropoiesis stimulating agent (ESA). The IMerge Phase 3 is currently enrolling patients.

The primary endpoint is the rate of red blood cell (RBC) transfusion independence (TI) for any consecutive period of eight weeks or longer, or 8-week RBC-TI rate. Key secondary endpoints include the rate of RBC-TI lasting at least 24 weeks, or 24-week RBC-TI rate, and the rate of hematologic improvement-erythroid (HI-E), defined as a reduction of at least four units of RBC transfusions over eight weeks compared with the prior RBC transfusion burden.

Title: ***A Randomized Open-Label, Phase 3 Study to Evaluate Imetelstat Versus Best Available Therapy in Patients with Intermediate-2 or High-risk Myelofibrosis (MF) Refractory to Janus Kinase (JAK) Inhibitor*** (Abstract #2194)

The IMpactMF Phase 3 clinical trial in refractory MF is a registration-enabling trial with OS as the primary endpoint. Approximately 320 patients with Intermediate-2 or High-risk MF will be randomized to receive either imetelstat or best available therapy, which will exclude JAK inhibitors. Key secondary endpoints include symptom response, spleen response, progression free survival, complete response, partial response, clinical improvement, duration of response, safety, pharmacokinetics, and patient reported outcomes.

Geron expects the trial to be open for screening and enrollment in the first quarter of 2021.

About Phase 2 IMerge and IMbark Trials

The IMerge Phase 2 was an open label, single arm trial to assess the safety and efficacy of a 7.5 mg/kg dose of imetelstat administered as an intravenous infusion every four weeks in transfusion dependent lower risk MDS patients who had relapsed after or were refractory to prior treatment with ESA. The IMerge Phase 2 is no longer enrolling patients, and patients remaining in the treatment phase continue to receive imetelstat treatment, per investigator discretion.

The IMbark Phase 2 was designed to evaluate two dosing regimens of imetelstat (either 4.7 mg/kg or 9.4 mg/kg administered by intravenous infusion every three weeks) in patients with Intermediate-2 or High-risk myelofibrosis (MF) who have relapsed after or are refractory to prior treatment with a janus kinase inhibitor (JAKi). The co-primary efficacy endpoints for IMbark were spleen response rate, defined as the proportion of patients who achieve a reduction of at least 35% in spleen volume as assessed by imaging, and symptom response rate, defined as the proportion of patients who achieve a reduction of at least 50% in Total Symptom Score (TSS), at 24 weeks. Key secondary endpoints were overall survival (OS) and safety. The trial is complete and closed.

About Imetelstat

Imetelstat is a novel, first-in-class telomerase inhibitor exclusively owned by Geron and being developed in hematologic myeloid malignancies. Early clinical data strongly suggest that imetelstat has disease-modifying activity through the apoptosis of malignant stem and progenitor cells, which allows potential recovery of normal hematopoiesis. Current clinical studies of imetelstat include IMerge, an ongoing Phase 2/3 trial in lower risk myelodysplastic syndromes (MDS), and IMpactMF, an upcoming Phase 3 clinical trial in refractory myelofibrosis (MF). Imetelstat has been granted Fast Track designation by the United States Food and Drug Administration for both the treatment of patients with non-del(5q) lower risk MDS who are refractory or resistant to an erythropoiesis-stimulating

agent and for patients with Intermediate-2 or High-risk MF whose disease has relapsed after or is refractory to janus kinase (JAK) inhibitor treatment.

About Geron

Geron is a clinical stage biopharmaceutical company focused on the development and potential commercialization of a first-in-class telomerase inhibitor, imetelstat, in hematologic myeloid malignancies. For more information about Geron, visit www.geron.com.

Use of Forward-Looking Statements

Except for the historical information contained herein, this press release contains forward-looking statements made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Investors are cautioned that such statements, include, without limitation, those regarding: (i) imetelstat's potential survival benefit for MF patients who have relapsed after, or are refractory to, prior treatment with a JAKi (relapsed/refractory MF); (ii) that the analyses and data from IMbark and IMerge provide strong evidence that imetelstat has disease-modifying activity, may enable patients to have clinical benefits of durable transfusion independence in MDS and improvement in overall survival in MF; (iii) that analyses and data presented on the depletion of abnormal clones and disease mutations strongly suggest that imetelstat has disease-modifying activity; and (iv) other statements that are not historical facts, constitute forward-looking statements. These forward-looking statements involve risks and uncertainties that can cause actual results to differ materially from those in such forward-looking statements. These risks and uncertainties, include, without limitation, risks and uncertainties related to whether: (i) imetelstat in clinical trials is able to demonstrate an overall survival benefit in patients who have relapsed/refractory MF; (ii) imetelstat demonstrates disease-modifying activity and durable transfusion independence in MDS in clinical trials; (iii) regulatory authorities permit the further development of imetelstat; (iv) imetelstat is safe and efficacious; and (v) any future efficacy or safety results cause the benefit-risk profile of imetelstat to become unacceptable. Additional information on the above risks and uncertainties and additional risks, uncertainties and factors that could cause actual results to differ materially from those in the forward-looking statements are contained in Geron's periodic reports filed with the Securities and Exchange Commission under the heading "Risk Factors," including Geron's quarterly report on Form 10-Q for the quarter ended September 30, 2020. Undue reliance should not be placed on forward-looking statements, which speak only as of the date they are made, and the facts and assumptions underlying the forward-looking statements may change. Except as required by law, Geron disclaims any obligation to update these forward-looking statements to reflect future information, events or circumstances.

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