



Cytheris Announces Initiation of NCI/NIH-Sponsored Phase I/IIa Clinical Study of Tumor Vaccination and Interleukin-7 (IL-7) in Patients with High Risk Pediatric Solid Tumors

Oncology study to focus on use of IL-7 (CYT107) as a vaccine enhancer in effort to develop improved outcomes for disease states in which <20% of patients with metastatic disease are cured

Paris – November 23, 2009 – Cytheris SA, a clinical stage biopharmaceutical company focused on research and development of new therapies for immune modulation, today announced the initiation of a Phase I/IIa clinical trial of IL-7 in support of tumor lysate/KLH pulsed dendritic cell vaccines in a pilot study of tumor vaccination in patients with metastatic or recurrent pediatric solid tumors and altered T cell homeostasis, including patients with Ewing's sarcoma family of tumors (ESFT), rhabdomyosarcoma, neuroblastoma, synovial cell sarcoma, desmoplastic small round cell tumor, undifferentiated sarcoma, and embryonal sarcoma.

The trial, "A Pilot Study of Tumor Vaccination and rhIL-7 Following Standard Multimodality Therapy in Patients with High Risk Pediatric Solid Tumors and Altered T Cell Homeostasis", is a further investigation of Cytheris' promising investigative immunotherapy, CYT107 (recombinant human interleukin-7, or IL-7), already the subject of seven other studies for different indications.

"This is one of several IL-7 oncology trials conducted with support from NIH that enables Cytheris to continue its longstanding collaboration with NCI investigators," said Michel Morre, DVM, President and CEO of Cytheris. "We are hopeful that studies such as this will demonstrate the role of CYT107 as an enhancer of therapeutic vaccines in cancer and, potentially, in chronic viral diseases as well."

The study is sponsored, conducted and partially funded by the National Cancer Institute (NCI), part of the US National Institutes of Health (NIH). Under the direction of Crystal L. Mackall, M.D., Chief of the Pediatric Oncology Branch and Head of the Immunology Section at NCI, the trial is designed to determine whether immune responses to tumor lysates can be induced in lymphopenic patients with specific types of pediatric solid tumors by combining immunotherapy consisting of autologous lymphocyte infusions depleted of regulatory T cells (Tregs) with tumor lysate/keyhole limpet hemocyanin (lysate/KLH) pulsed dendritic cell (DC) vaccination.

"Despite low overall survival rates, many patients with the kinds of solid tumors represented in this study sustain a very good partial or complete response to standard multimodality therapy comprising multiagent chemotherapy and radiation therapy and/or surgery," said Thérèse Crouchs, MD, Chief Medical Officer of Cytheris. "This protocol will seek to add CYT107 in support of immunotherapy following completion of frontline therapy for patients with primary metastatic disease and following best salvage therapy for patients with recurrent disease in an effort to develop improved outcomes for disease states in which <20% of patients with clinically apparent metastatic disease at presentation are cured."

About the Study

Patients treated with cytotoxic chemotherapy for ESFT, alveolar rhabdomyosarcoma and neuroblastoma universally sustain T cell depletion. While at face value this may limit overall immunocompetence, it can also provide a starting point for specific tumor directed immunotherapy which may be more effective when administered in this clinical setting.

This study will involve administration of autologous lymphocyte infusions and tumor lysate based dendritic cell vaccines to patients rendered lymphopenic by chemotherapy for pediatric solid tumors. RhIL-7 will be incorporated to enhance the rate of immune reconstitution in this population and to increase responsiveness to dendritic cell vaccinations. Patients will be enrolled either at initial diagnosis with metastatic disease or at the time of tumor recurrence following a treatment free interval.

About Interleukin-7 (CYT107)

Recombinant human interleukin-7 (CYT107) is a critical immune-modulator for immune T-cell recovery and enhancement. As a growth factor and cytokine physiologically produced by marrow or thymic stromal cells and other epithelia, IL-7 has a critical and, at some steps, a non-redundant stimulating effect on T lymphocyte development, notably on thymopoiesis and, downstream from the thymus, on homeostatic expansion of peripheral T-cells.

A first-generation form of rhIL-7 was shown in pre-clinical and Phase I studies in oncology and HIV-infected patients to be well tolerated in repeated dose trials, with long-lasting increases in both CD4 and CD8 T cells. CYT107 is a second-generation rhIL-7 product made by Cytheris via a recombinant mammalian cell culture system.

Clinical trials conducted on more than 120 patients in Europe, North America and Taiwan have demonstrated the potential of IL-7 to expand and protect CD4+ and CD8+ T-cells. Currently, Cytheris is conducting multiple international investigations of IL-7 in HCV, HIV, cancer, with trials for other indications planned to initiate in 2H09.

About Cytheris' Interleukin-7 Clinical Development

Ongoing clinical development includes seven interpatient dose escalation studies, with starting doses varying from 3 µg/kg/week to 60 µg/kg/week, to evaluate the safety and biological activity of CYT107 in various indications. These studies include:

- **CLI-107-04:** a monocentric Phase I interpatient non-controlled dose escalation study in oncology (metastatic melanoma or renal cell carcinoma), conducted at the US National Cancer Institute, Bethesda, Maryland.
- **CLI-107-06 (the INSPIRE study):** a Phase I/IIa interpatient dose escalation randomized placebo-controlled, single-blind, multicenter study in HIV-infected patients, conducted in the United States, Canada, Italy and France.
- **CLI-107-05 (ECLIPSE-1):** a Phase I multicenter, non-controlled interpatient dose escalation study in treatment-naive, non-responder (no Early Viral Response (EVR) at week 12) HCV infected patients conducted in France, Italy and Switzerland assessing CYT107 in combination with a peg-interferon (peg-IFN) and Ribavirin (RBV) bi-therapy.
- **CLI-107-07 (ECLIPSE-2):** a Phase I/IIa non-controlled dose escalation study in HCV-infected patients, conducted in France and Italy, evaluating CYT107 in combination with peg-IFN and RBV bi-therapy in patients with genotype 1 and 4 previously non-responsive to standard treatment.
- **CLI-107-09 (ECLIPSE 3):** a Phase I/IIa non-controlled dose escalation study in chronically infected HCV patients, conducted at multiple sites in Taiwan, evaluating CYT107 in combination with peg-IFN and RBV bi-therapy in patients with genotype 1 previously non-responsive to standard treatment.
- **CLI-107-08:** a monocentric Phase I non-controlled interpatient dose escalation study in recipients of HLA-matched ex-vivo T-cell-depleted bone marrow or peripheral blood stem cell transplant to restore CD4+ and CD8+ counts following T-cell depletion, conducted at the Memorial Sloan-Kettering Cancer Center in New York City.
- **ICICLE:** a Phase I/IIa open-label, single arm clinical trial evaluating the safety profile of CYT107 as an immune modulator in patients with idiopathic CD4 lymphocytopenia at risk of disease progression. The trial is sponsored and partially funded by the National Institute of Allergy and Infectious Diseases (NIAID) and conducted at the NIH Clinical Center in Bethesda, Maryland.

About Cytheris – www.cytheris.com

Cytheris SA is a privately held clinical-stage biopharmaceutical company focused on research and development of new therapies for immune modulation. These drugs aim at reconstituting and enhancing the immune system of patients suffering from cancer, chronic viral or bacterial infections such as HCV, HBV and HIV, or lympho-depleting treatments such as chemotherapy, radiotherapy, bone marrow transplantation (BMT) and hematopoietic cell transplantation (HCT). The company operates from its headquarters and laboratories in Issy-les-Moulineaux, a suburb of Paris, and its U.S. subsidiary in Rockville, Maryland.

For more information, please contact:

International media inquiries -- Andrew Lloyd & Associates:

Andrew Lloyd (allo@ala.com), Neil Hunter (neil@ala.com)

Tel: +44 1273 675 100