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## **Data From NewLink Genetics Phase 2 Trial of Its HyperAcute(R) Pancreas (Algenpantucel-L) Immunotherapy to be Presented at the 2012 Digestive Disease Week**

### **Algenpantucel-L Immunotherapy Phase 2 Data Featured in Plenary Session at 53rd Annual Meeting of the Society for Surgery of the Alimentary Tract and Will be Published in the Journal of Gastrointestinal Surgery**

AMES, Iowa, May 22, 2012 (GLOBE NEWSWIRE) -- NewLink Genetics Corporation (Nasdaq:NLNK), today announced that Phase 2 data from its investigational HyperAcute® Pancreas immunotherapy clinical trial in surgically resected pancreas cancer patients will be presented at the 53rd Annual Meeting of the Society for Surgery of the Alimentary. The detailed results will be published in the Journal of Gastrointestinal Surgery. HyperAcute® Pancreas is currently being evaluated in a multi-institution, randomized, Phase 3 clinical trial under a Special Protocol Assessment with the FDA.

"The primary endpoint of this study was to evaluate disease free survival and this was achieved with an observed twelve month DFS of 62% and median DFS of 14.1 months," commented the primary investigator Dr. Jeffrey M. Hardacre of the University Hospitals Seidman Cancer Center and Case Western Reserve University, Cleveland, OH and presenter of the study results. "In addition to successfully achieving the primary endpoint, we were particularly encouraged by both the favorable impact on overall survival and the anecdotal, yet provocative, observation that three patients who had relapsed after Algenpantucel-L treatment and were subsequently treated with a variety of second line therapies then obtained complete radiographic responses. Further, we are excited by the fact that all three of these patients' complete responses have been durable with none recurring over the 6 to 36 months since their observed complete remissions."

"It is gratifying to take another step forward in our mission to bring novel therapeutic alternatives like HyperAcute® Pancreas immunotherapy to pancreatic cancer patients, and we are looking forward to updating 2 and 3 year survival data from this study at the upcoming ASCO meeting," commented Dr. Nick Vahanian, Chief Medical Officer of NewLink Genetics. "We are eagerly focused on the progress of our ongoing Phase 3 study of this product candidate based on the positive Phase 2 data," he added.

#### **Key data from the 69 patient Phase 2 Algenpantucel-L trial demonstrated:**

The primary endpoint of the study, 12-month disease free survival (DFS), was 62%. The median DFS was 14.1 months. Subgroup analysis showed that patients receiving 300 million cells/dose had a 12-month DFS of 81%, while those receiving 100 million cells/dose had a 12-month DFS of 51% ( $p=0.02$ , Fisher's Exact). Prognostic criteria did not significantly differ between the two groups.

Overall 12-month survival was 86%. The predicted 12 month overall survival in our study was 55-63%. Subgroup analysis showed that patients receiving 300 million cells/dose had an overall 12-month survival of 96%, while those receiving 100 million cells/dose had an overall 12-month survival of 79% ( $p=0.053$ , Fisher's Exact).

The HyperAcute® Pancreas immunotherapy product candidate, also referred to as Algenpantucel-L, demonstrated good tolerability and a favorable safety profile with no grade four adverse events considered attributable to the immunotherapy. The predominant adverse events related to the immunotherapy were grade one or two injection site reactions, all treated with conservative local therapies.

Anecdotally, three patients with cancer recurrence after receiving algenpantucel-L obtained complete radiographic responses with the use of subsequent chemotherapy. As of May 16, 2012, all three patients remain in remission with no evidence of disease for periods ranging from six to 36 months.

#### **About the Phase 2 Study**

The multi-institutional, open-label, dose-finding, Phase 2 trial evaluated the use of Algenpantucel-L in addition to chemotherapy with chemoradiotherapy in the adjuvant setting for resected pancreatic cancer. Adjuvant therapy was to start within seven weeks after surgery. The first cycle of treatment consisted of vaccination with either 100 million or 300 million cells per dose given intradermally on days one and eight. One week after the second vaccination, gemcitabine was

administered at 1000mg/m<sup>2</sup>/week for three weeks, on days one, eight, and 15, in conjunction with HyperAcute® immunotherapy dosed on days one and 15 of cycle two. Chemoradiotherapy was initiated one to two weeks after the completion of cycle two. Continuous infusion 5-FU was administered at 250 mg/m<sup>2</sup>/day for the entire duration of radiation therapy. HyperAcute® immunotherapy was administered on days one, 15, 29, and 43 of the chemoradiotherapy stage. A total of up to 14 vaccinations were dosed for patients who completed the entire study treatment.

### **About HyperAcute® Immunotherapy**

NewLink's HyperAcute® immunotherapy technology is designed to stimulate the human immune system by exploiting a natural barrier present in humans that protects against infection being transmitted from other mammals. This barrier is related to the enzyme, alpha (1,3) galactosyl transferase, or Alpha-GT, which is expressed in the cells of lower mammals but not present in human cells. The presence of this enzyme results in the incorporation of a non-human form of carbohydrate called alpha (1,3) galactosyl carbohydrates, or Alpha-Gal, on the surface of expressing cells. Introducing Alpha-Gal expressing cells to the human immune system activates an immune response resulting from pre-existing antibodies against Alpha-Gal. Antibodies directed against the Alpha-Gal epitope are potentially the most abundant natural antibody in humans and represent approximately 1% of circulating human antibodies.

NewLink's HyperAcute® cancer immunotherapy product candidates are composed of irradiated, live, allogeneic human cancer cells modified to express the gene that makes Alpha-Gal epitopes. This exposure to Alpha-Gal stimulates the human immune system to attack and destroy the immunotherapy cells on which Alpha-Gal is present by activating complement, an important component of the immune system capable of cell destruction. After destruction, NewLink believes the resulting cellular fragments bound by anti-Alpha-Gal antibodies are processed by the immune system to elicit an enhanced multi-faceted immune response to tumor-associated antigens common to both the immunotherapy and the patient's tumor cells.

### **About Algenpantucel-L (HyperAcute Pancreas immunotherapy product candidate)**

NewLink's algenpantucel-L immunotherapy product candidate consists of a group of two allogeneic pancreatic cancer tumor cell lines that were modified to express Alpha-Gal. These cell lines were chosen to provide a broad coverage of pancreatic cancer antigens. Each of the modified cell lines is grown in large cultures, harvested, irradiated and packaged. Approximately 150 million cells of each HyperAcute® Pancreas cell line are given by intradermal injection with each treatment. A series of up to 12 treatments using both cell lines over a period of six months was used in our Phase 2 clinical trial. In our Phase 3 protocol, we are adding an additional series of six maintenance treatments, to be given during the next six months.

### **About Pancreatic Cancer**

The American Cancer Society estimates that approximately 44,030 new cases of pancreatic cancer were diagnosed in the United States in 2011. Pancreatic cancer has generally been recognized as an aggressive form of cancer with non-specific initial symptoms, making it difficult to diagnose at an early stage. Due to the difficulty in diagnosis and the aggressive nature of this cancer, the National Cancer Institute estimates a 96% mortality rate is associated with this disease, and the American Cancer Society estimates one-year and five-year overall survival rates of about 24% and 5%, respectively.

Pancreatic cancer can generally be divided into three broad categories: (1) local disease, in which the cancer is confined to the pancreas and can be removed surgically, which is called resection; (2) locally advanced disease, in which the cancer has spread locally and may or may not be eligible for resection because it has invaded tissues that should not be removed, such as key nerves and arteries; and (3) metastatic disease, in which the tumor has spread beyond the region of the pancreas.

### **About NewLink Genetics Corporation**

NewLink Genetics Corporation is a biopharmaceutical company focused on discovering, developing and commercializing novel immunotherapeutic products to improve cancer treatment options for patients and physicians. NewLink's portfolio includes biologic and small-molecule immunotherapy product candidates intended to treat a wide range of oncology indications. NewLink's product candidates are designed with an objective to harness multiple components of the innate immune system to combat cancer, either as a monotherapy or in combination with current treatment regimens, without incremental toxicity. NewLink's lead product candidate, HyperAcute® Pancreas cancer immunotherapy is being studied in a Phase 3 clinical trial in surgically-resected pancreatic cancer patients (patient information is available at <http://www.pancreaticcancer-clinicaltrials.com>). This clinical trial is being performed under a Special Protocol Assessment with the U.S. Food and Drug Administration. NewLink and its collaborators have completed patient enrollment for a Phase 1/2 clinical trial evaluating its HyperAcute® Lung cancer immunotherapy product candidate for non-small cell lung cancer and a Phase 2 clinical trial for its HyperAcute® Melanoma cancer immunotherapy product candidate. NewLink also is developing d-1-methyltryptophan, or D-1MT, a small-molecule, orally bioavailable product candidate from NewLink's

proprietary indoleamine-(2, 3)-dioxygenase, or IDO, pathway inhibitor technology. Through NewLink's collaboration with the National Cancer Institute, NewLink is studying D-1MT in various chemotherapy and immunotherapy combinations in two Phase 1B/2 safety and efficacy clinical trials. For more information please visit [www.linkp.com](http://www.linkp.com).

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