Discovery Labs’ KL₄ Surfactant Demonstrates Potential Protective Role for Lung Transplantation in Established Preclinical Model

Data Presented at 2010 American Thoracic Society International Conference

Warrington, PA - May 17, 2010 — Discovery Laboratories, Inc. (Nasdaq: DSCO) announced that data from a preclinical study using Discovery Labs’ KL₄ surfactant (lucinactant) in an established porcine model of lung transplantation demonstrated a potentially important protective role in a newly transplanted lung, reducing ischemia-reperfusion injury often seen after lung transplantation. These data were presented at the 2010 American Thoracic Society International Conference, which is internationally recognized as the most important medical congress dedicated to advancement of the clinical and scientific understanding of pulmonary medicine. The study is summarized below:

Beneficial Effects of Synthetic KL₄ Surfactant in Experimental Lung Transplantation; Dr. Christina Casals, et.al; Complutense University, Madrid

- The objective of this study was to assess the potential protective role of KL₄ surfactant in reducing ischemia-reperfusion injury by administering KL₄ surfactant to donor lungs prior to harvest and transplantation in an experimental pig lung transplant model.

- In transplanted donor lungs that were treated with KL₄ surfactant prior to lung harvest and transplantation, a significant improvement in oxygenation ($p < 0.05$) was observed, as well as preservation of lung surfactant composition ($p < 0.05$) and a significant reduction in oxidative damage ($p < 0.05$) compared with animals receiving untreated transplanted lungs.

- The investigators concluded that KL₄ surfactant may play an important protective role in minimizing lung damage triggered by ischemia-reperfusion injury following lung transplantation.

Dr. Robert Segal, Senior Vice President and Chief Medical Officer of Discovery Labs commented, “Discovery Labs’ KL₄ surfactant technology is becoming increasingly recognized as a promising new approach for the treatment of a wide range of respiratory disorders. The International Society for Heart & Lung Transplantation reports that more than 2,500 lung transplantations were conducted in their most recent reporting year. Lung transplant specialists clearly recognize the need for new medical solutions that improve post-operative patient outcomes following lung transplantation. Data from Casals et al suggests that KL₄ surfactant may represent a complementary therapeutic strategy to support successful lung transplantation.”

About KL₄ Surfactant
KL₄ surfactant is an investigational drug candidate that has not been approved by the FDA or any other world health regulatory authority. The data listed above include information that may be of interest to healthcare practitioners; however, the clinical relevance of this information has not been fully established.
**About The American Thoracic Society International Conference**
The American Thoracic Society (ATS) is an international society with 15,000 members and is the world's leading medical association dedicated to advancing clinical and scientific understanding of pulmonary diseases, critical illnesses and sleep-related breathing disorders. The ATS International Conference is the largest U.S. meeting for healthcare professionals in pulmonary, critical care, and sleep medicine.

**About Discovery Labs**
Discovery Laboratories, Inc. is a biotechnology company developing KL4 surfactant therapies for respiratory diseases. Surfactants are produced naturally in the lungs and are essential for breathing. Discovery Labs’ novel proprietary KL4 surfactant technology produces a synthetic, peptide-containing surfactant that is structurally similar to pulmonary surfactant and is being developed in liquid, aerosol or lyophilized formulations. In addition, Discovery Labs’ proprietary capillary aerosolization technology produces a dense aerosol, with a defined particle size that is capable of potentially delivering aerosolized KL4 surfactant to the deep lung without the complications currently associated with liquid surfactant administration. Discovery Labs believes that its proprietary technology platform makes it possible, for the first time, to develop a significant pipeline of surfactant products to address a variety of respiratory diseases for which there frequently are few or no approved therapies. For more information, please visit our website at [www.Discoverylabs.com](http://www.Discoverylabs.com).

**Forward-Looking Statements**
To the extent that statements in this press release are not strictly historical, all such statements are forward-looking, and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from the statements made. The reader is encouraged to read the examples of such risks and uncertainties that are described in Discovery Labs’ filings with the Securities and Exchange Commission including the most recent reports on Forms 10-K, 10-Q and 8-K, and any amendments thereto.

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