Discovery Labs’ KL₄ Surfactant Data to be Presented at Pediatric Academic Societies Annual Meeting and American Thoracic Society International Conference

Warrington, PA – April 28, 2010 — Discovery Laboratories, Inc. (Nasdaq: DSCO), announced that new data supporting the unique properties of its KL₄ surfactant technology will be presented at the upcoming Pediatric Academic Societies Annual Meeting (May 1 – 4, 2010) and at the American Thoracic Society International Conference (May 14 – 19, 2010). The Pediatric Academic Societies Annual Meeting is internationally recognized as the most relevant medical meeting dedicated to pediatric research. The American Thoracic Society International Conference is internationally recognized as the largest and most important medical congress featuring the latest information on clinical, basic, and translational science in pulmonary, critical care and sleep medicine. The presentations at the upcoming meetings are as follows:

**Pediatric Academic Societies Annual Meeting** (Data to be presented on May 4, 2010)

- **Lyophilized KL₄ Surfactant Sustains Oxygenation and Attenuates Inflammation Versus Animal-Derived Surfactant Replacement Therapy (SRT) in Ventilated-Hyperoxic Respiratory Distress (RDS) Model; Marla R Wolfson, et al.**

- **Comprehensive Comparison of Poractant Alfa and Lyophilized KL₄ Surfactant in a Preterm Lamb Model of Respiratory Distress Syndrome; Arlin B. Blood, et al.**

**American Thoracic Society International Conference** (Data to be presented on May 16, 2010)

- **Beneficial Effects of the Instillation of Synthetic KL₄ Surfactant in Experimental Lung Transplantation; Christina Casals, et al.**

Robert Segal, M.D., Senior Vice President and Chief Medical Officer of Discovery Labs, commented, “We are extremely excited that new data from these scientific collaborations relating to our KL₄ surfactant technology will be presented at these important meetings. We believe that our KL₄ surfactant technology is increasingly recognized as a promising new approach for the treatment of a wide range of respiratory disorders. We are developing our lead products, Surfaxin®, Surfaxin LS™, and Aerosurf®, to address the most significant respiratory conditions affecting pediatric populations. In addition, we plan over time to develop our KL₄ surfactant technology into a broad product pipeline to potentially address a variety of debilitating respiratory conditions for which there are currently few, if any, approved therapies.”

**About The Pediatric Academic Societies Annual Meeting**
The Pediatric Academic Societies (PAS) consists of the American Pediatric Society, the Society for Pediatric Research and the Ambulatory Pediatric Association. The PAS annual meeting is recognized
as the largest, most prestigious meeting dedicated to pediatric research and education in the world and brings together scientists and physicians with expertise in all areas of pediatrics. More than 5,000 pediatric healthcare providers, including approximately 1,100 neonatologists attend this meeting annually.

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 international meeting for healthcare professionals in pulmonary, critical care, and sleep medicine.

About Discovery Labs
Discovery Laboratories, Inc. is a biotechnology company developing 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.

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. Examples of such risks and uncertainties are: risks relating to the rigorous regulatory requirements required for approval of any drug or drug-device combination products that Discovery Labs may develop, including that: (a) Discovery Labs and the U.S. Food and Drug Administration (FDA) or other regulatory authorities will not be able to agree on the matters raised during regulatory reviews, or Discovery Labs may be required to conduct significant additional activities to potentially gain approval of its product candidates, if ever, (b) the FDA or other regulatory authorities may not accept or may withhold or delay consideration of any of Discovery Labs’ applications, or may not approve or may limit approval of Discovery Labs’ products to particular indications or impose unanticipated label limitations, and (c) changes in the national or international political and regulatory environment may make it more difficult to gain FDA or other regulatory approval; risks relating to Discovery Labs’ research and development activities, including (i) time-consuming and expensive pre-clinical studies, clinical trials and other efforts, which may be subject to potentially significant delays or regulatory holds, or fail, and (ii) the need for sophisticated and extensive analytical methodologies, including an acceptable biological activity test, if required, as well as other quality control release and stability tests to satisfy the requirements of the regulatory authorities; risks relating to Discovery Labs’ ability to develop and manufacture drug products and capillary aerosolization systems for clinical studies, and, if approved, for commercialization of drug and combination drug-device products, including risks of technology transfers to contract manufacturers and problems or delays encountered by Discovery Labs, its contract manufacturers or suppliers in manufacturing drug products, drug substances and capillary aerosolization systems on a timely basis or in an amount sufficient to support Discovery Labs’ development efforts and, if approved, commercialization; the risk that Discovery Labs may be
unable to identify potential strategic partners or collaborators to develop and commercialize its products, if approved, in a timely manner, if at all; the risk that Discovery Labs will not be able in a changing financial market to raise additional capital or enter into strategic alliances or collaboration agreements, or that the ongoing credit crisis will adversely affect the ability of Discovery Labs to fund its activities, or that additional financings could result in substantial equity dilution; the risk that Discovery Labs will not be able to access credit from its committed equity financing facilities (CEFFs), or that the minimum share price at which Discovery Labs may access the CEFFs from time to time will prevent Discovery Labs from accessing the full dollar amount potentially available under the CEFFs; the risk that Discovery Labs or its strategic partners or collaborators will not be able to retain, or attract, qualified personnel; the risk that Discovery Labs will be unable to regain compliance with The Nasdaq Global Market listing requirements prior to the expiration of the grace period currently in effect, which could cause the price of Discovery Labs’ common stock to decline; the risk that recurring losses, negative cash flows and the inability to raise additional capital could threaten Discovery Labs’ ability to continue as a going concern; the risks that Discovery Labs may be unable to maintain and protect the patents and licenses related to its products, or other companies may develop competing therapies and/or technologies, or health care reform may adversely affect Discovery Labs; risks of legal proceedings, including securities actions and product liability claims; risks relating to health care reform; and other risks and uncertainties 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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