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SBI ALApromo Co., Ltd.

ALA Study Results Presented at 39th Annual Meeting of Japanese Association for Acute Medicine

- Discovery of ALA's inhibitory effect on inflammatory cytokine production -

SBI ALApromo Co., Ltd. (Head Office: Minato-ku, Tokyo; Representative Director and CEO: Yoshitaka Kitao; "SBI ALApromo"), a subsidiary of SBI Holdings, Inc. that conducts research and development of cosmetics, health foods, and pharmaceuticals using 5-aminolevulinic acid (ALA)[*1], has discovered in joint research with Nihon University that ALA has the effect of inhibiting the production of inflammatory cytokine.

The study results were presented at the 39th Annual Meeting of the Japanese Association for Acute Medicine held on October 20, 2011.

With the aim of inhibiting inflammatory cytokines which can be a direct fatal cause of sepsis[*2], a challenging disease for acute medicine, the study evaluated ALA's potential effect in this respect using a sepsis model in which human pulmonary artery endothelial cells are cultured with lipopolysaccharide (LPS) that induces inflammatory cytokines. The results showed that the addition of ALA and iron reduced the protein levels of two types of inflammatory cytokines, interleukin-6 (IL-6) and interleukin-8 (IL-8), to two thirds and one fourth, respectively.

Sepsis is a severe disease caused by a bacterial infection of the blood[*2]. Carrying a mortality rate of about 30%, the disease has been a major challenge in the field of acute medicine. While bacterial infection can be inhibited by antibiotics, it is believed that LPS (also called endotoxin) released from bacteria killed by antibiotics induces inflammatory cytokines, which in turn cause fatal inflammation. Since there is no other known substance that effectively inhibits inflammatory cytokines, the ALA research results mark a major breakthrough for the development of new treatment options for sepsis.

While the application of ALA to human treatment is a challenge for the future, SBI ALApromo will make further efforts to pursue ALA research so that it may help many patients. Research outcomes and up-to-date information about ALA will be available also from ALAplus Lab (URL: http://www.ala-plus.jp/).

Glossary:

***1: 5-aminolevulinic acid (ALA)**

"ALA" is a type of natural amino acid that has survived the last 3,600 million years and is contained even in food products such as red wine and radish sprouts. It is known to get involved in production of chlorophyll, which is essential for photosynthesis in plants, and in production of vitamin B12, blood constituents and

intracellular energy in animals. "ALA" is well known as an extremely important and essential ingredient for any species. It is used in a wide range of applications from intraoperative diagnosis of brain tumors and cancer screening in the medical field, anemia prophylaxis in the health foods field, to care for pimples and rough skin in the cosmetics field.

***2: Sepsis**

It is said that the number of sepsis patients in United States is over 750 thousand per year, and 210 thousand of them die for sepsis. In Japan, the patient number per year is up to 100 thousand.