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SBI ALA promo Co., Ltd.

Notice of Announcement of Research Results at the 65th Annual Meeting of
the Japanese Society of Nutrition and Food Science
Found that ALA has the effect of improving metabolism and limiting the
accumulation of fat

SBI ALA promo Co., Ltd., (head office: Minato-ku, Tokyo; Representative Director and CEO: Yoshitaka Kitao; “SBI ALA promo”), a subsidiary of SBI Holdings, Inc., that conducts research and development of cosmetics, health foods and pharmaceuticals using 5-aminolevulinic acid (ALA)^{*1}) has found that ALA has the effect of increasing energy metabolism^{*2}) and the effect of limiting the accumulation of fat with Kyoto Prefectural University, Cosmo Oil Co., Ltd. and Biomaterial in Tokyo Co., Ltd. The research results were announced at the 65th annual meeting of the Japanese Society of Nutrition and Food Science held on May 13 to 15. The research revealed that ALA increased metabolism such as increased oxygen consumption and higher body temperature of rat, and in addition to that rats eating feed containing ALA for 14 days showed significant limitation on the amount of fat accumulated in organs. ALA is already known to increase the activity of mitochondria (Complex IV^{*3})), but this research also indicated an increase in uncoupling proteins (UCPs)^{*4}) in fat cells. Increased metabolism and heightened body temperature were also confirmed through respiratory gas analysis in volunteer trials with health foods containing ALA, and ALA is expected to have the effect of promoting health. Recently, the basal temperature of people in modern society has decreased, and lowered immunity is one of the most important problems. Increasing metabolism and inducing uncoupling proteins is expected to increase body temperature and improve immunity. Furthermore, ALA was found to limit the accumulation of fat in rat, which is a cause of metabolic syndrome, and is expected to contribute to not only diets, but also more widely to health in general.

In future, we will continue with further efforts in research on the efficacy of ALA as a material able to contribute to the promotion of health.

***1: 5-Aminolevulinic Acid (ALA)**

An amino acid created by mitochondria in the body. It is an important substance that serves as protein material related to energy production in the form of hemes and cytochromes, and its

productivity is known to decrease with age. ALA is contained in shochu distillation remnants, red wine and foods such as radish sprout. In addition, it is known as a material forming chloroplasts in plants, and fertilizers and health foods containing ALA are among its practical applications.

***2: Metabolism**

This is an indicator of biological activity. If energy metabolism decreases, body temperature is lowered along with immunity, while making a person more susceptible to gaining weight.

***3: Complex IV**

One of the five protein complexes that work in the electron transport chain used for the creation of energy (ATP) in mitochondria, and an extremely important complex in the consumption of almost all oxygen consumed in the body.

***4: UCPs**

A protein that creates heat within fat cells and muscle. As this protein increases, the amount of energy used as heat increases, heightening the consumption of sugar and fat.

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