

## Soy-based S-equol supplement reduces metabolic syndrome risk factors

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A 12-week treatment of the fermented soy germ-based nutritional supplement containing S-equol significantly lowered hemoglobin A1c (HbA1c), LDL cholesterol and improved vascular stiffness, all factors that occur as part of metabolic syndrome, according to a first-of-its-kind peer-reviewed study reported in a poster at the Women's Health 2012 annual meeting.

"This study is the first to provide evidence that a daily supplement of soy-based S-equol favorably change [metabolic syndrome risk factors](#), particularly in women. Because not all individuals have the ability to produce S-equol naturally after eating soy, the study results are very interesting and warrant examination in future studies," said Belinda H. Jenks, Ph.D., coauthor of the study and director of Scientific Affairs & Nutrition Education at Pharmavite LLC, an U.S. subsidiary of Otsuka Pharmaceutical Co, Ltd, which sponsored the study. Development and ongoing research of a supplement containing S-equol is conducted by the Saga Nutraceuticals Research Institute of Otsuka Pharmaceutical Co., Ltd.

S-equol [7-hydroxy-3-(4'-hydroxyphenyl)-chroman] is a compound resulting -- when certain bacteria are present in the digestive tract -- from the natural metabolism, or conversion, of daidzein, an isoflavone found in whole soybeans. Not everyone can produce S-equol after soy consumption, as the production depends on the types of bacteria present in the large intestine and may be influenced by the amount of soy consumed. About 50 percent of Asians and 20 to 30 percent of North

Americans and Europeans, who in general consume less soy than Asians, have the ability to produce S-equol. Research indicates that Japanese women have milder menopausal symptoms in those who are S-equol producers compared to nonproducers.

Pharmavite LLC, the makers of Nature Made® vitamins and minerals and a subsidiary of Otsuka, is studying the supplement for the management of menopausal symptoms. Recent controlled studies conducted with U.S. and Japanese postmenopausal women have documented that daily consumption of S-equol supplements reduced the frequency of hot flashes as well as muscle discomfort associated with menopause, while those in Japanese postmenopausal women also showed a significant inhibition of bone loss or resorption. The new study offers additional insights into soy-based S-equol's potential benefits.

## **S-equol Supplement Reduces Metabolic Disease Indicators in Overweight Japanese Adults**

In the new study, daily supplement doses containing 10 milligrams (mg) of S-equol significantly reduced three indicators of metabolic syndrome in 49 Japanese men and women, aged 31 to 77, who had body mass index (BMI) of 25 or more kilograms per meter squared, which is considered overweight by the World Health Organization. During the study, the participants randomly received either the S-equol supplement or a placebo for 12 weeks and then were switched to the opposite treatment for 12 weeks.

Measures of glycated [hemoglobin A1C](#) (HbA1c) low-density lipoprotein [cholesterol](#) (LDL-C) and cardio-ankle vascular index (CAVI) all were significantly lower in the S-equol treated group compared to those in the placebo group based on changes in the indicators from the study start to the study end. Specifically, the average change in HbA1c, which reflects

the average amount of the sugar glucose in a person's blood over three months, decreased significantly by -0.2 percent in the S-equol group vs. an increase of +0.1 percent in the placebo group, (p

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