Focusing on Vision Health

There are natural ways to maintain vision health. Helping customers see them clearly is the challenge.

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Chances are, you’ve never heard of heat shock proteins (HSPs). Nevertheless, these natural biochemicals produced by the body play a vital role in stress protection and longevity. This article will discuss heat shock proteins, and the role that ETAS (enzyme-treated asparagus stem), a special enzyme-treated asparagus stem extract, has in triggering their release of the heat shock protein HSP70, and the resulting beneficial effects—including improvements in stress parameters, sleep, mood, energy and other beneficial effects.

**HSPs**

HSPs, a group of proteins that exist in virtually all living organisms, are an important part of the cell’s machinery to help to protect cells from stress, as well as being necessary for protein folding.** HSPs help protect and repair the body’s cellular proteins from heat damage that would otherwise deform and denature these proteins, rendering them nonfunctional. It is thought that HSPs are the reason that thermal and spa treatments (a form of heat stress) stimulate anti-stress and anti-aging effects. In fact, HSPs are stimulated by exercise and calorie restriction, and have been shown to have life-extending effects in animal studies. In addition, the production of HSPs is increased in the presence of heavy metals such as arsenic, cadmium and mercury, presumably to help protect cells from damage.

**HSP70**

Some HSPs, such as HSP70, not only protect the body from the damaging effects of stress, but also directly protect cells against damage that would otherwise lead to apoptosis, a type of early cell death. HSP70 also has anti-inflammatory and antioxidant activity, and its production is stimulated by several stresses such as heat, starvation, alcohol intake, and ultraviolet radiation. However, HSP70 decreases with age, which may be related to low-grade inflammation found in the aging process. This decrease contributes to the development of protein-aggregation diseases, in turn leading to a reduction in cellular vigor and a decrease in lifespan. That’s where ETAS extract can help.

**ETAS Extract**

Although asparagus is commonly eaten as a nutritious vegetable, it is the tender buds and the upper part of the stem that are typically used. The main part of the stem is tough, and usually discarded. However, the “waste” part of the stems contains novel compounds called hydroxymethylfurfural derivatives, which are capable of inducing HSP70. In fact, in a human study, 150 mg of ETAS daily resulted in 29.4 percent increase in HSP70. When treated with enzymes, and extracted to produce ETAS, research has demonstrated that this nutraceutical offers some significant health benefits, as discussed below.

**Stress**

Two human intervention trials with ETAS were conducted in healthy adult male volunteers. Study 1, a randomized, double-blind, placebo-controlled study, assessed the effects of 150 mg/day ETAS on the autonomic nervous system (ANS), including standard deviation of the normal and normal interval (SDNN) that represent the ANS activity, physical stress, mental stress,
controlled crossover trial,16,25 healthy vol-

te subjects with less than 90 percent sleep

efficiency over 90 percent (i.e. getting less sleep) among those with sleep

decreased and worsening in the placebo

group.

Regarding the aforementioned study 2,15 ETAS intake was significantly associated with

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