

## HSP70 has many beneficial functions. It repairs damaged cells, tips the balance from

excitatory cytokines to inhibitory ones and serves as an antioxidant.\*[7],[8],[9] Unfortunately, the heat shock response to stressors of all kinds decreases with age.[10],[11] Human clinical research has shown that ETAS significantly increases the expression of HSP70 at a dosage of 100 mg elemental ETAS per day.\*[12] (The commercially available form of ETAS is 50%

elemental ETAS, requiring a dosage of 200 mg per day.) TRADITION OF

## THERAPY FROM AROUND THE Warm bath has been a medical therapy for relaxation worldwide. Now, we can finally explain it with science through Heat Shock Protein ("HSP").

WARM BATH

**HSP** Induction



Refolded

**Decomposed** protein

Brain

**Function** 



## ETAS for the HSP-inducing effect.

**HSP repairs...** 

**Better** 

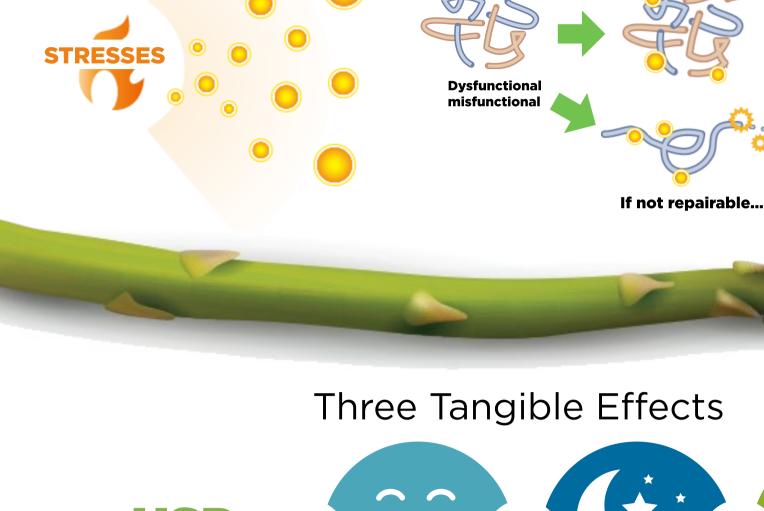
Several active components are identified in

- HSP is found in virtually all living organisms, from bacteria to humans.
- normal protein

**Unfolded Protein** 

• HSP helps such protein folding as "chaperone" by stabilizing new proteins to ensure correct folding, or by helping to refold proteins that were damaged by the cell stress.

**Dysfunctional** misfunctional



**Stress** 

Relief

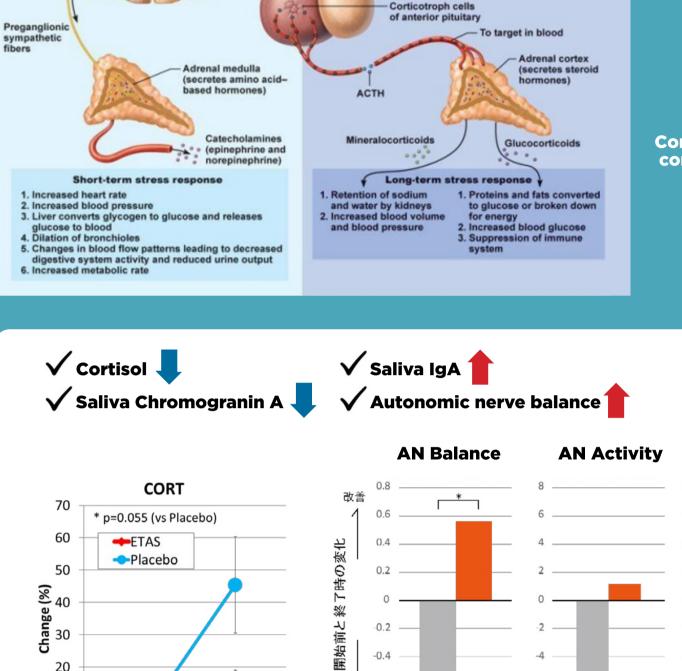


CRH (corticotropin-

**Stress Relief** 

**HSP Modulates Stress Levels** 

Function of cortisol in stress



**Cortisol receptor forms** complex with HSP and detects cortisol J Biol Chem. 1994 Feb *18;269(7):5043*-9. Physical Stress **Mental Stress** 

Could sleep

but woke up tired

**Cortisol** 

**Negative** 

feedback



**REM** 

**Non-REM** 

**Non-REM** (Deep)

8

7

6

5

4

Sleep time

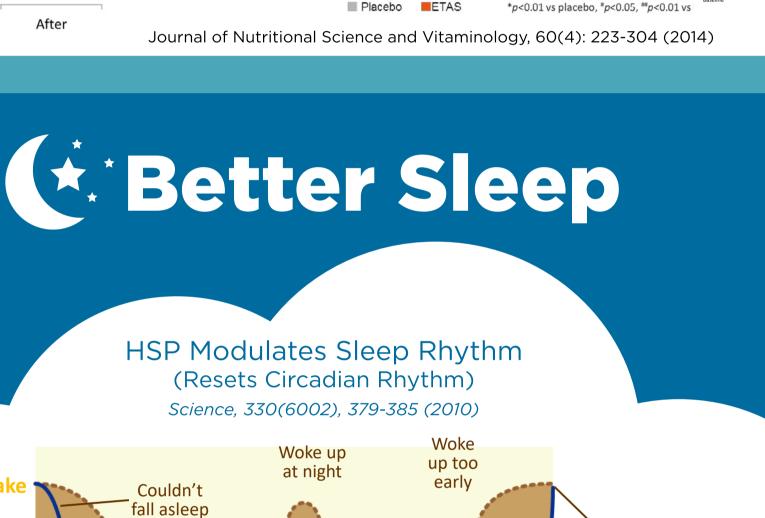
0

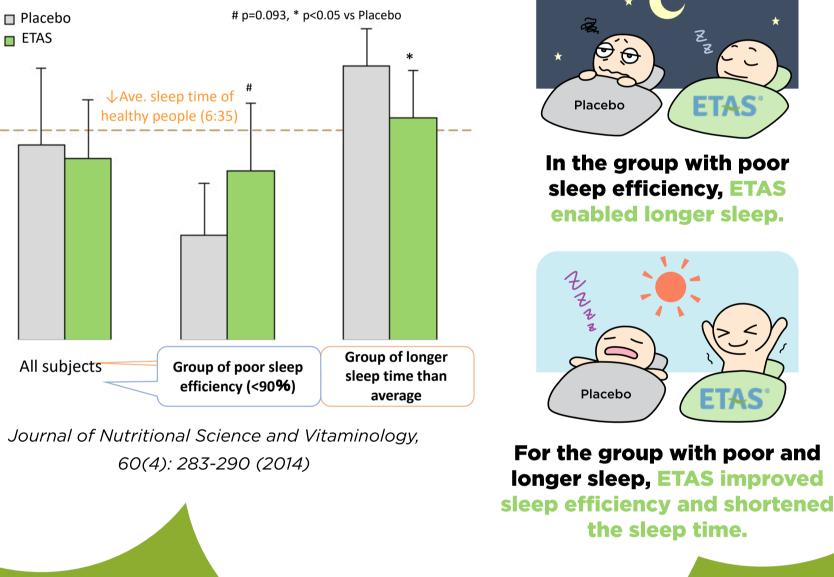
1

Spinal cord

20

10





Light sleep

Sleep Time (h)

4

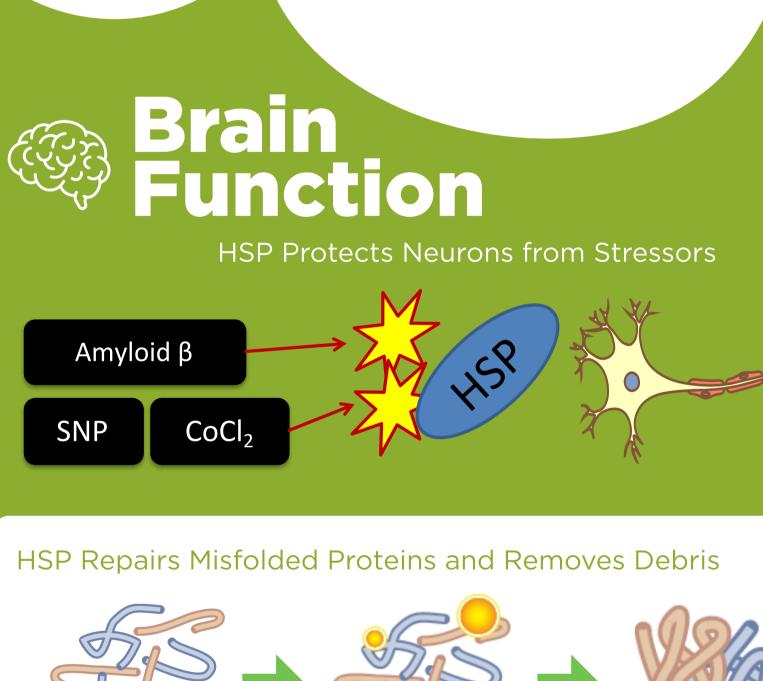
5

6

3

Deep sleep

2





**POMS (Profile of Mood States)** 

1 min. x 15 sets

T-A

35

• Neuron cells increased in brain

120

Supports Neuron Cell Growth

**Better Neural** 

**Network Formation** 

120

100

80

60

Correctanswers

Department of Life Sciences, National Cheng Kung University, Tainan 70101, Taiwan

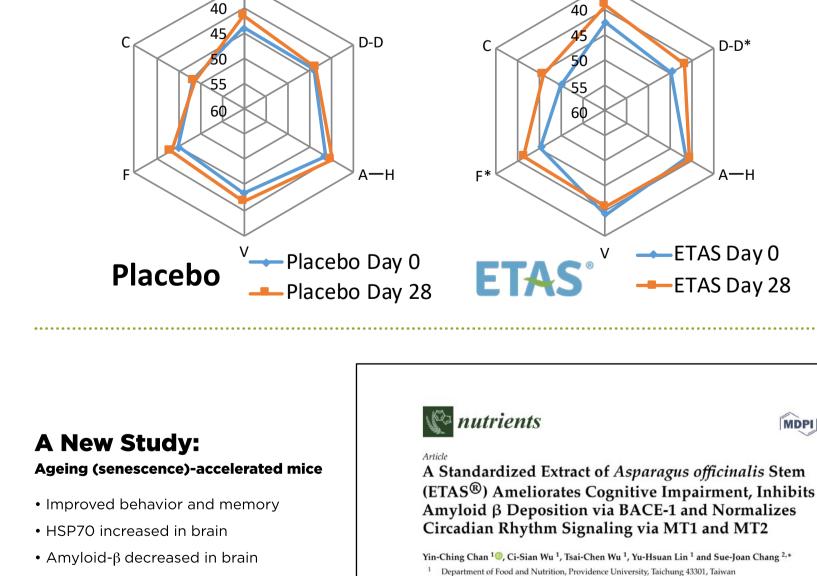
Abstract: The prevalence of cognitive impairments and circadian disturbances increases in the elderly and Alzheimer's disease (AD) patients. This study investigated the effects of a standardized

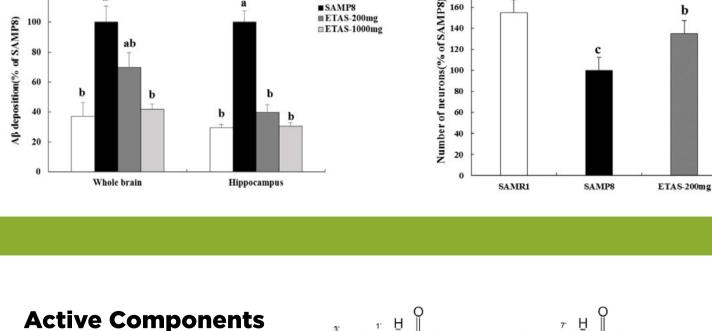
Correspondence: sjchang@mail.ncku.edu.tw

140

Received: 1 July 2019; Accepted: 13 July 2019; Published: 17 July 2019

117





Cyclo (L-Leu-L-Pro)

□SAMR1 ■SAMP8

■ETAS-1000mg

## ETAS is a natural ingredient derived from asparagus, which has been safely consumed as part of the food chain for at least 5,000 years. A 90-day toxicological study found

Several active components

with the component group

"Asparaprolines" asparagus-

derived proline-containing

3-alkyldiketopiperazines".

are identified in ETAS for HSP-

induction, and ETAS is standardized

[6] Ito T. J Agric Food Chem. 2013; 61:9155-9.

[7] Akagi R, et al. Pharmacology. 2013;91(1-2):104-11

[10] Njemini R, et al. BMC Immunology. 2011;12:24.

[13] Ito T, et al. Regul Toxicol and Pharmacol. 2014;68:240-9.

[12] Ito T, et al. J. Food Sci. 2014; in press

[11] Calderwood SK, Murshid A, Prince T. Gerontology, 2009:55(5);550-8.

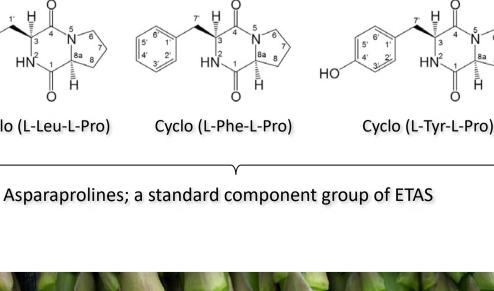




SAFETY



Cyclo (L-Phe-L-Pro)



MDPI

ab

ETAS-1000mg

**HSP-Inducing supplement** 

Stress relief

Better quality sleep

Brain function





www.maypro.com