

# WULINSHENPRIME™

## PROMOTES RELAXATION & SLEEP QUALITY

### WHAT IS WULINSHEN?

WulinshenPrime™ is NuLiv Science proprietary extract from *Xylaria nigripes* fungus that contains many essential amino acids, vitamins, minerals, trace elements, glycoproteins, glutamic acid,  $\gamma$ -aminobutyric acid (GABA) and decarboxylase.

WulinshenPrime™ has demonstrated *in-vivo* and in human clinical studies to regulate, support and promote relaxation and improve sleep quality. On sleep, it is well established that glutamic acid assists the uptake of GABA to specific brain cell receptors and exerts a tranquilizing effect on the central nervous system.

### HOW WULINSHENPRIME™ WORKS IN THE HUMAN BODY

Pharmacological studies<sup>(1)</sup> indicate that the amount of glutamic acid (Glu),  $\gamma$ -aminobutyric acid (GABA) and the ability to bind to GABA receptors in the brain were higher in subjects in the treatment group compared to subjects in the control group after the administration of WulinshenPrime™.

Furthermore, the activity of glutamate decarboxylase (GAD) was also elevated. This suggests that WulinshenPrime™ possesses the ability to facilitate the entry of Glu and GABA into the brain to activate the receptors of GABA and thus exert its sedative and sleep-promoting and mood elevating properties.

Pharmacodynamics study indicates the Glu and GABA content in the brain of tested mice were significantly increased after administration of WulinshenPrime™ that correlates to the reduced time to sleep and length of sleep.

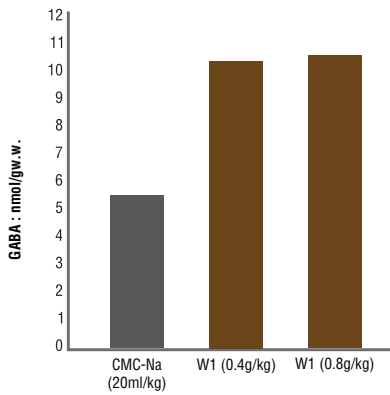
A Phase II & III clinical trial on 467 subjects from 11 hospitals indicated that WulinshenPrime™ was able to improve the sleep quality over 90% of the participants, even after participants stopped taking WulinshenPrime™ for two weeks.



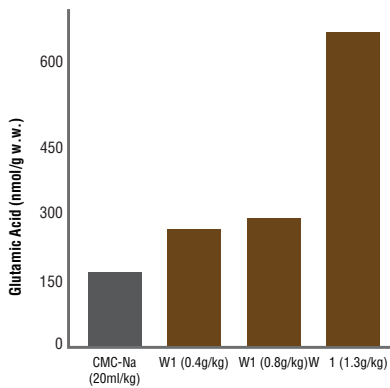
## BENEFITS

- Improves sleep quality
- Promotes relaxation
- Elevates mood

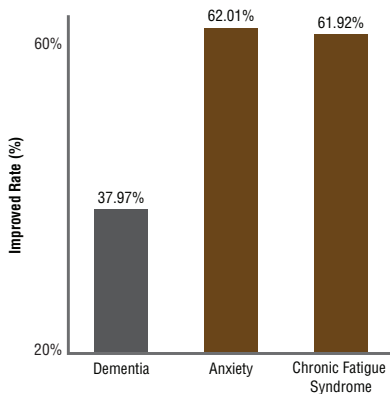
Effect of WulinshenPrime™ on brain uptake of GABA in mice



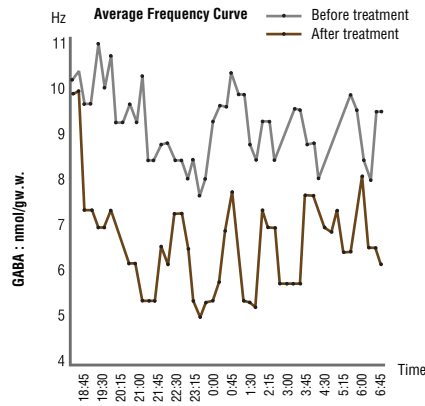
Effect of WulinshenPrime™ on brain uptake of Glutamic Dehydrogenase in mice



Effect of WulinshenPrime™ on brain uptake of Dementia, Anxiety, and Chronic Fatigue Syndrome



Effect of WulinshenPrime™ in lowering brain wave activity that leads to improved quality of sleep



## PRODUCT PROPERTIES

- Composition: a proprietary extract of *Xylaria nigripes* mycelium by a proprietary fermentation technology
- Marker compounds: Total polysaccharides  $\geq 7.5\%$
- Color: Dark brown
- Odor: Characteristic
- Taste: Slightly bitter
- Appearance: Fine granular powder
- Dose: 500mg-1,000mg
- Shelf life: 36 months
- Preservative: none
- Pesticide & herbicide residues: NO more than detection limits

## REFERENCES

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2. Shih-Chuan Chinese Medicinal Journal, p1434 (1960). 3b. Z.J. Ma, et al., *Journal of Immunology (China)*, 5 (2), 13 (1989).
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