PharmaGABA-100 PharmaGABA-250

Stress reduction, improved sleep, non-habit-forming\*



natural-source GABA



#### What it does

PharmaGABA® provides a gentle, non-habit-forming source of gamma-aminobutyric acid (GABA), the calming brain neurotransmitter.\* GABA helps promote mental relaxation and stress reduction without causing drowsiness.\*

## How it works

#### GABA in the body

GABA is a major neurotransmitter widely distributed throughout the central nervous system. Because too much excitation can lead to irritability, restlessness, and sleep problems, it must be balanced with inhibition. GABA – the most important inhibitory neurotransmitter in the brain – provides this inhibition, acting like a "brake" during times of runaway stress.

#### Thorne's unique GABA formulation

The GABA in Thorne's PharmaGABA-100 and PharmaGABA-250 is produced via a fermentation process that utilizes *Lactobacillus hilgardii*, the bacteria used to ferment vegetables in the preparation of the traditional Korean cabbage dish known as kimchi. A clinical study found this form of GABA can increase the production of alpha-waves in the brain, creating a profound sense of physical relaxation while maintaining mental focus. In contrast, the stress-related beta-waves in the brain are decreased. In addition to changes in brain waves, PharmaGABA has been shown to produce relaxation, as evidenced by increased levels of salivary secretory immunoglobulin A (slgA) in a group of volunteers placed in a stressful situtation. In

### When could you use PharmaGABA?

PharmaGABA-100 and PharmaGABA-250 could be used for individuals feeling overwhelmed, over-committed, stressed out, or in need of restful sleep.\*

# Science behind PharmaGABA®

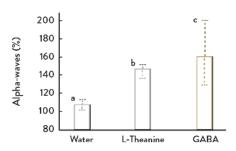
#### PharmaGABA studies

A small pilot study conducted at the University of Shizuoka in Japan enrolled 13 healthy volunteers, seven males and six females, ages 21-35. EEG tracings were recorded before and after each of three administrations of: (1) 200 mL distilled water; (2) distilled water containing 100 mg PharmaGABA; and (3) distilled water containing 200 mg L-theanine (an amino acid from green tea known to increase alpha-brain waves).¹ Tests of the three administrations were separated by seven-day intervals. EEG recordings were made before administration, then at 0, 30, and 60 minutes after each administration for five-minute recording sessions. The PharmaGABA produced significant effects on both increasing alpha waves (Figure 1) and decreasing beta waves, resulting in a highly significant increase in the alpha-to-beta wave ratio.\*

Additional clinical studies with PharmaGABA yield further evidence of its anti-stress activity.\* Secretory IgA is an important antibody in saliva that helps support immune function. Typically, during times of stress salivary sIgA levels drop. In one study, subjects with acrophobia (fear of heights) traversed a long walking suspension bridge that spanned a 150-foot high canyon. Salivary sIgA levels decreased when subjects were given a placebo; however, when they were given PharmaGABA, salivary sIgA levels were maintained half-way across the bridge and actually increased upon completion of the crossing (Figure 2).1\*

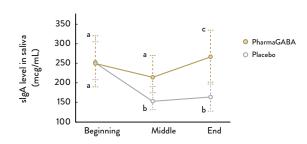
1. Abdou A, Higashiguchi S, Horie K, et al. Biofactors 2006;26:201-208.

Figure 1. Changes in alpha-wave generation after administration of water, L-theanine, or PharmaGABA



Values are means ± SEM of waves ratios of three measurements (at 0, 30, and 60 minutes after each administration). Values with different letters are significantly different at p<0.05.

Figure 2. Salivary secretory IgA levels of acrophobic volunteers crossing a suspension bridge



Values are means  $\pm$  SEM of sIgA levels in eight volunteers at beginning, middle, and end of the bridge. Values with different letters are significantly different at p<0.05.

#### PharmaGABA-100

SUPPLEMENT FACTS Serving Size: One Capsule		V14
One Capsule Contains:		%DV
Gamma-Aminobutyric Acid (GABA)†	100 mg	*
*Daily Value (DV) not established.		

# Other Ingredients

Microcrystalline Cellulose, Hypromellose (derived from cellulose) capsule, Magnesium Citrate, Calcium Laurate.

#### Suggested Use

Take 1 capsule one to three times daily or as recommended by your health-care practitioner.

**WARNING:** If pregnant, nursing, or trying to conceive, do not use this product.

†This product uses Pharma Foods International's Gamma-Aminobutyric Acid (PharmaGABA®). PharmaGABA is a registered trademark of Pharma Foods International.

Sku	Unit Count	Benefits	Features
SP652	60 Capsules	Sleep*	Gluten Free
		Stress*	Soy Free
		Sports Performance*	Dairy Free

#### PharmaGABA-250

SUPPLEMENT FACTS Serving Size: One Capsule		VO8
One Capsule Contains:		%DV
Gamma-Aminobutyric Acid (GABA)†	250 mg	*
*Daily Value (DV) not established.		

# Other Ingredients

Microcrystalline Cellulose, Hypromellose (derived from cellulose) capsule, Magnesium Citrate, Calcium Laurate.

#### Suggested Use

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Sku	Unit Count	Benefits	Features
SP662	60 Capsules	Sleep*	Gluten Free
		Stress*	Soy Free
		Sports Performance*	Dairy Free

