

NeuroTone®

Broad Spectrum nutritional support for healthy mental function

DESCRIPTION

NeuroTone® , provided by Douglas Laboratories®, is a unique, comprehensive combination of nutrients which work in concert to maintain and enhance brain and nervous system functions, including those involved in mental alertness, clarity, and memory retention. NeuroTone provides meaningful amounts of eleven nutrients, all of which are supported by scientific or clinical studies, in a convenient, economical tablet formula.

FUNCTIONS

The nutrients in NeuroTone work together in four different capacities to support and protect mental and nervous system function: neurotransmitter synthesis support, enhancement of microcirculation to the brain, nerve cell membrane stabilization and repair, and attenuation of the stress response.

Neurotransmitter metabolism support: NeuroTone provides several important nutrients which contribute to the metabolism of key neurotransmitters as precursors, substrate, or stimulators of neurotransmitter production and subsequent release. Optimal neurotransmitter generation and release is essential for proper communication between nervous system cells, and thus for healthy nervous system function.

Acetyl-L-Carnitine: This acetylated high energy ester of the amino acid L-carnitine contributes its acetyl groups to the production and release of acetylcholine, the primary neurotransmitter for memory and thought. The carnitine component plays a key role in the transport of fatty acids into the nerve mitochondria where they serve as fuel for cellular energy production. **L-Glutamine:** Glutamine, a non-essential amino acid, easily crosses the blood-brain barrier where it can be converted into two important neurotransmitters, the excitatory L-glutamic acid and the major inhibitory neurotransmitter gamma amino butyric acid. **Choline & Lecithin (Phosphatidylcholine):** Choline, related to the B vitamins, is the other critical precursor of acetylcholine. Choline is water soluble and is therefore quickly available to participate in acetylcholine synthesis.

Phosphatidylcholine, which can be a source of choline, is fat-soluble; as such, phosphatidylcholine has a longer-lasting, sustained effect on acetylcholine production. **DMAE (dimethylaminoethanol):** DMAE, a precursor of choline in the brain, also supports acetylcholine synthesis through its ability to cross the blood-brain barrier. Research indicates that DMAE supplementation appears to enhance short-term memory and learning speed.

L-Pyroglutamic acid: This amino acid compound stimulates synthesis and release of acetylcholine by boosting the metabolism of specific nerve cells responsible for the release of this important neurotransmitter.

L-Tyrosine: L-tyrosine, a conditionally-essential amino acid is a direct precursor of norepinephrine and dopamine, two important catecholamines. Norepinephrine is involved in long-term memory and has an energizing, mood-elevating action. Dopamine is the principal neurotransmitter involved in central nervous system control of muscle movement.

Enhancement of microcirculation of the brain: The brain depends on the circulatory system to provide a constant supply of oxygen and glucose to support the function of this extremely metabolically active organ. Any deficit in cranial blood flow deprives the brain of essential oxygen and glucose. As a result, the brain's significant metabolic demands will not be met and mental function can be moderately to severely impaired. Two key components of NeuroTone actively support blood flow to the brain.

Ginkgo Biloba: Flavonoid compounds and terpene lactones in the ginkgo leaf help regulate the tone and elasticity of both arteries and capillaries. Increasing circulation to the brain and other parts of the body allows for better oxygen and glucose uptake, with subsequent enhancement of memory and mental functions.

Acetyl-L-Carnitine: Research has found that this amino acid compound is also active in increasing cerebral blood flow.

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Nerve cell membrane repair and restoration: Cell membranes act in part as gatekeepers, regulating the transport of nutrients into and waste products out of a cell. The fluidity and integrity of these cell membranes are essential for proper regulation of transport mechanisms and subsequently of the cell environment. Specific nutrients which stabilize and restore cell membrane health and integrity are included in NeuroTone.

Acetyl-L-Carnitine: This amino acid compound is further involved in mental and nervous system function as it helps preserve and restore the stability and fluidity of nerve cell membranes.

Phosphatidylserine: This phospholipid, found in high concentrations in the nervous system, helps maintain fluidity of nerve cell membranes, thus providing for optimal transport of nutrients and other compounds across the cell membrane. It is also used in the repair and regeneration of nerve cells.

Lecithin: Lecithin is a primary source of phosphatidylcholine, which is used to repair and maintain nerve cell membranes. Phosphatidylcholine is also a major constituent in the synthesis of myelin, the insulating sheath around nerve cells that helps ensure effective transmission of nerve cell activity.

DHA (docosahexanoic acid): DHA, a fatty acid prominent in brain and nerve cells, is essential for optimal neural and retinal development and maintenance. It also contributes to myelin synthesis and is used in the repair and regeneration of nerve cells.

Attenuation of the stress response: The body has intricate mechanisms by which it balances hormonal responses during and following periods of stress. When these mechanisms are disrupted, the ensuing imbalance can precipitate damage to brain and nervous system functions. NeuroTone contains several nutrients which assist in supporting these balancing mechanisms.

Phosphatidylserine: Phosphatidylserine appears to help the body counterbalance excessive release of adrenocorticotrophic hormone (ACTH), adrenaline, and cortisol which are released in response to stress.

INDICATIONS

NeuroTone tablets may be taken as a nutrition supplement for those wishing to increase their intake of these key neuronutrients.

FORMULA (#NRT)

Acetyl-L-Carnitine HCL	500 mg
Phosphatidylserine (from soy lecithin)	50 mg
Ginkgo Biloba, dried extract (min. 27% ginkgo flavone glycosides min. 7% terpene lactones)	80 mg
DMAE (dimethylaminoethanol)	100 mg
Choline (bitartrate)	150 mg
L-Glutamine	500 mg
L-Pyroglutamic acid	250 mg
L-Tyrosine	250 mg
Eleutherococcus senticosus	150 mg
Ashwagandha, dried extract (min. 1.5% withanolides, min. 1% alkaloids).....	150 mg
Neuromins™* DHA Powder	300 mg
Supplying:	
Docosahexanoic acid	42 mg
Lecithin.....	250 mg
Supplying approximately:	
Phosphatidylcholine	65 mg

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Phosphatidylethanolamine 50 mg

Phosphatidylinositol 35 mg

*Neuromins is a trademark of Martek. Biosciences Corporation; US Patent Nos.5,407,957 and 5,492,938.

SUGGESTED USE

Two tablets twice daily or as directed by a physician.

SIDE EFFECTS

No adverse side effects have been reported.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

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For more information on NeuroTone® visit douglaslabs.com

† These statements have not been evaluated by the Food and Drug Administration.

This product is not intended to diagnose, treat, cure, or prevent any disease.

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Your patients trust you.**

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