GABA - the “feel good” supplement

What is GABA?

GABA (gamma-aminobutyric acid) is the chief inhibitory neurotransmitter in the central nervous system. It plays an important role in regulating the nervous system. GABA is also directly responsible for the regulation of muscle tone. Although chemically it is an amino acid, GABA is rarely referred to as such in the scientific or medical communities, because the term “amino acid,” refers to the alpha amino acids, which GABA is not, nor is it incorporated into proteins. GABA is found in large amounts in the area of the brain known as the hypothalamus. When taking GABA as a supplement it is also important to take on an empty stomach and in combination with vitamin B6, which acts as a cofactor to help metabolize GABA properly.

Studies & Abstracts

Relaxation and immunity enhancement effects of gamma-aminobutyric acid administration in humans.

The effect of orally administrated gamma-aminobutyric acid on relaxation and immunity during stress has been investigated in humans. Two studies were conducted. The first evaluated the effect of GABA intake by 13 subjects on their brain waves. Electroencephalograms (EEG) were obtained after 3 tests on each volunteer as follows: intake only water, GABA, or L-theanine. After 60 minutes of administration, GABA significantly increases alpha waves and decreases beta waves compared to water or L-theanine. These findings denote that GABA not only induces relaxation but also reduces anxiety. The second study was conducted to see the role of relaxant and anxiolytic effects of GABA intake on immunity in stressed volunteers. Eight acrophobic subjects were divided into 2 groups (placebo and GABA). All subjects were crossing a suspended bridge as a stressful stimulus. Immunoglobulin A (IgA) levels in their saliva were monitored during bridge crossing. Placebo group showed marked decrease of their IgA levels, while GABA group showed significantly higher levels. In conclusion, GABA could work effectively as a natural relaxant and its effects could be seen within 1 hour of its administration to induce relaxation and diminish anxiety. Moreover, GABA administration could enhance immunity under stress conditions.

Effect of a gamma-aminobutyric acid-enriched dairy product on the blood pressure of spontaneously hypertensive and normotensive rats.

The blood-pressure-lowering effects of gamma-aminobutyric acid and a GABA-enriched fermented milk product (FMG) by low-dose oral administration to spontaneously hypertensive (SHR/Izm) and normotensive Wistar-Kyoto (WKY/Izm) were studied in rats. FMG was a non-fat fermented milk product produced by lactic acid bacteria, and the GABA contained in FMG was made from the protein of the milk during fermentation. A single oral dose of GABA or FMG (5 ml/kg; 0.5 mg GABA/kg) significantly decreased the blood pressure of SHR/Izm from 4 to 8 h after administration, but did not increase.
that of WKY/Izm rats. The hypotensive activity of GABA was dose-dependent from 0.05 to 5.00 mg/kg in SHR/Izm. During the chronic administration of experimental diets to SHR/Izm, a significantly slower increase in blood pressure with respect to the control group was observed at 1 or 2 weeks after the start of feeding with the GABA or FMG diet respectively and this difference was maintained throughout the period of feeding. The time profile of blood-pressure change due to administration of FMG was similar to that of GABA. FMG did not inhibit angiotensin 1-converting enzyme. Furthermore, an FMG peptide-containing fraction from reverse-phase chromatography lacked a hypotensive effect in SHR/Izm rats. The present results suggest that low-dose oral GABA has a hypotensive effect in SHR/Izm and that the hypotensive effect of FMG is due to GABA.

**GABA functions in the following ways:**
- An inhibitory neurotransmitter
- Produces a calming affect on the brain
- Aids in growth hormone secretion
- Muscle relaxant
- Lowers blood pressure
- Controls hypoglycemia
- Prevents anxiety
- Promotes sleep

**Symptoms of GABA deficiency:**
- Anxiety
- Sensation that your brain is racing out of control

**Dietary Sources** The following foods are high in glutamic acid/glutamate:

<table>
<thead>
<tr>
<th>Almonds, tree nuts</th>
<th>Brewer’s yeast</th>
<th>Eggs</th>
<th>Meat</th>
<th>Rice bran</th>
<th>Soy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bananas</td>
<td>Broccoli</td>
<td>Halibut</td>
<td>Nuts</td>
<td>Seafood</td>
<td>Walnuts</td>
</tr>
<tr>
<td>Beans</td>
<td>Brown Rice</td>
<td>Legumes</td>
<td>Oats, whole grain</td>
<td>Seeds</td>
<td>Whey</td>
</tr>
<tr>
<td>Beef Liver</td>
<td>Dairy products</td>
<td>Lentils</td>
<td>Oranges, citrus fruits</td>
<td>Spinach</td>
<td>Whole wheat, whole grains</td>
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**Side Effects:**
Some people experience a tingling sensation in the face and a slight shortness of breath after taking GABA which may last a few minutes. If GABA causes drowsiness, it is recommended to take in the evening. People with liver or kidney disease, contact your physician before taking GABA

**Dosage:**
- 375 mg three times a day for individuals weighing less than 125 pounds.
- 750 mg three times a day for individuals weighing more than 125 pounds.

**References**