

History Of GABA (gamma-Aminobutyric acid) Timeline | Histowiki

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Gamma-Aminobutyric acid is the chief inhibitory neurotransmitter in the mammalian central nervous system. It plays a role in regulating neuronal excitability throughout the nervous system. In humans, **GABA** is also directly responsible for the regulation of muscle tone. [Source](#)



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,” used without a qualifier, conventionally refers to the alpha amino acids, which GABA is not, nor is it ever incorporated into a protein.

In spastic diplegia in humans, GABA absorption becomes impaired by nerves damaged from the condition’s upper motor neuron lesion, which leads to hypertonia of the muscles signaled by those nerves that can no longer absorb GABA.

GABA does not penetrate the blood–brain barrier; it is synthesized in the brain. It is synthesized from glutamate using the enzyme L-glutamic acid decarboxylase and pyridoxal phosphate (which is the active form of vitamin B6) as a cofactor via a metabolic pathway called the GABA shunt. This process converts glutamate, the principal excitatory neurotransmitter, into the principal inhibitory neurotransmitter (GABA). [Source](#)

A number of commercial sources sell formulations of GABA for use as a dietary supplement, sometimes for sublingual administration. These sources typically claim that the supplement has a calming effect. There is some disagreement as to whether or not these claims can be backed up scientifically. For example, there is evidence stating that the calming effects of GABA can be seen observably in the human brain after administration of an oral [GABA supplement](#). There is also evidence that GABA does not cross the blood–brain barrier at significant levels. [Source](#)

There are some over-the-counter supplements such as Picamilon that cross the blood–brain barrier as a prodrug that later hydrolyzes into GABA and niacin.

GABA is also found in plants, where it is the most abundant [amino acid in the apoplast of tomatoes](#). It may also have [a role in cell signalling in plants](#).

1883: Gamma-aminobutyric acid was first synthesized, was first known only as a plant and microbe metabolic product. [Source](#)

1950: GABA was discovered to be an integral part of the mammalian central nervous system. [Source](#)

2007: An excitatory GABAergic system was described in the airway epithelium. The system activates following exposure to allergens and may participate in the mechanisms of asthma. GABAergic systems have also been found in the testis and in the eye lens. [Source](#) [Source](#)

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