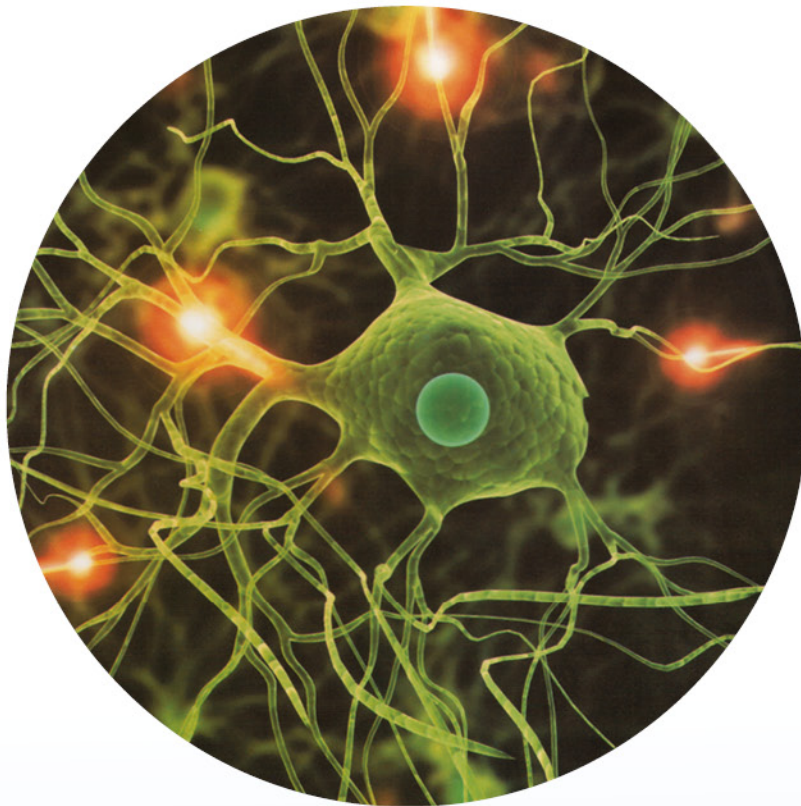


# INOSITOL

FORMULA  
for the Promotion of a  
Healthy Nervous System

for the normal function of the nervous system



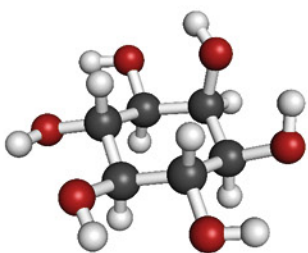
*Dietary Supplement*



60 tablets

# Inositol

**Inositol**, also known as **vitamin B8**, is a natural isomer of glucose. It is an important intermediate key element of the body's second messengers, as well as a main component of phospholipids in the cell membranes involved in many biological processes. Its unique chemical structure enables it to "enter" and "exit" cells, highlighting its importance in the body.



Its role is important in determining how the neurotransmitters operate in the brain and in the body, including the reversal of the desensitization of serotonin, thus regulating serotonin activity. In addition, it is important in signal transduction for calcium and insulin elements.

It is also a component of the biological information exchange system. Inositol contributes to the information processing procedure inside the cell, e.g. biological information contained in hormones. Second messengers are molecules within the cells that act to transmit signals from a receptor to a specific target. When these substances were discovered, the term, "second messengers" was coined, so as to distinguish them from the hormones and other molecules that function outside the cell as "first messengers" in the transmission of biological information.

A large number of molecules have been classified as second messengers including molecules derived from phospholipids (inositol triphosphate) among others.

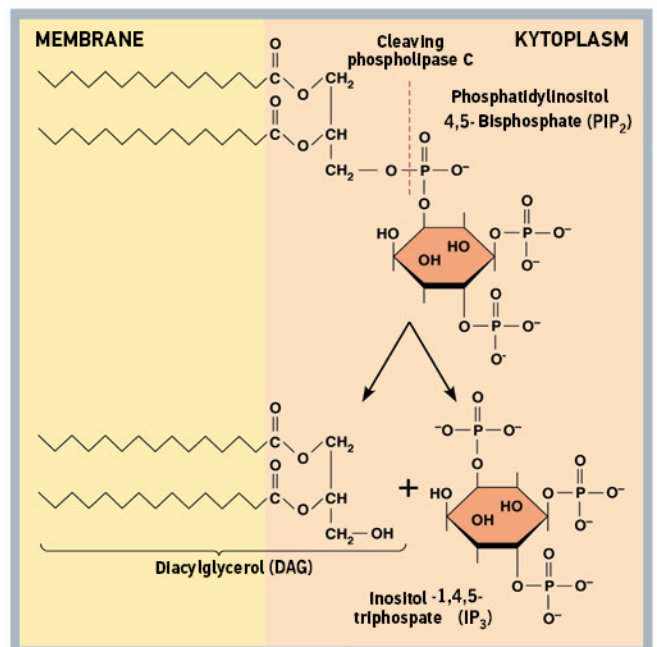
A general mechanism/system of second messengers sequence can be divided into four stages.

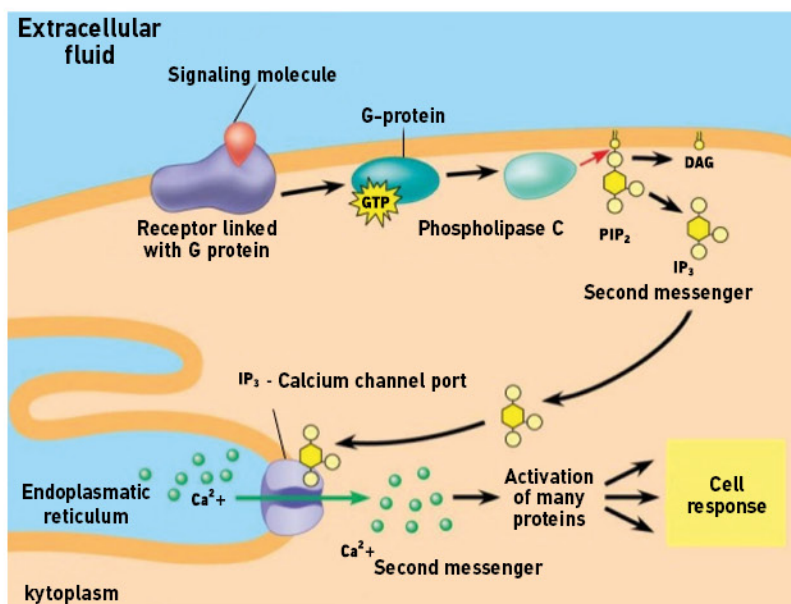
- The agonist activates a receptor that is bound to the membrane.
- The activated G protein produces a basic operator.
- The primary effect stimulates the synthesis of the second messenger.

- The second messenger activates a certain cellular process.

The receptors associated with the G-protein for the PIP<sub>2</sub> system (phosphatidylinositol 4,5-bisphosphate) messenger, produces two operators, Phospholipase C (PLC) and Phosphoinositide 3-kinase (Pi3k). PLC as operator produces two different second messengers, inositol triphosphate (IP<sub>3</sub>) and sn-1,2- diacylglycerol (DAG).

IP<sub>3</sub> (inositol triphosphate) is soluble and diffuses freely in the cytoplasm. As a second messenger it is recognized by the inositol triphosphate receptor (IP<sub>3</sub>R), a Ca<sup>2+</sup> channel in the membrane of the endoplasmic reticulum (ER) which stores intracellular Ca<sup>2+</sup>. The attachment of (inositol triphosphate) IP<sub>3</sub> to its receptor releases Ca<sup>2+</sup> from the endoplasmic reticulum to the cytoplasm which in normal conditions is poor in Ca<sup>2+</sup>, which in turn activates the various cell procedures associated with Ca<sup>2+</sup>. Specifically, in the blood vessels, the increase of Ca<sup>2+</sup> concentration from IP<sub>3</sub> (inositol triphosphate) releases nitric oxide, which then diffuses into the smooth muscle tissue and causes relaxation.





In a paper published in "Nature" in 1984, inositol triphosphate is officially characterized as a second messenger in the transfer of cell signals. By 2010, the volume of bibliographies in many scientific publications journals referring to IP3 exceeded 20,000 references. Its role begins in the field of biology, is involved in medicine (in specialties such as Neurology, Endocrinology and Pathology), and is realized in the pharmaceutical industry. The role of inositol in the nervous system has also proven to be vital. **Inositol** contributes to the normal functioning of the nervous system, due to its special composition.

COMPOSITION INACTIVE INGREDIENTS	Per daily dose (1-2 tabs)	% RDA
Inositol	1.000 - 2.000 mg	
Folic acid	200 - 400 mcg	100 - 200%
Vitamin B6	1 - 2 mg	71,43 - 142,86%
Vitamin B12	0,4 - 0,8 mg	16 - 32%

## DOSAGE

Take 1-2 tablets once a day.

**Bibliography:** 1. Nature. 1984 Nov 22-28;312(5992):315-21. Inositol triphosphate, a novel second messenger in cellular signal transduction. Berridge MJ, Irvine RF. 2. Benjamin J, Levine J, Fux M, et al. Double-blind, placebo-controlled, crossover trial of inositol treatment for panic disorder. *Am J Psychiatry* 1995;152:1084-6. Palatnik A, Frolov K, Fux M, Benjamin J. Double-blind, controlled, crossover trial of inositol versus fluvoxamine for the treatment of panic disorder. *J Clin Psychopharmacol* 2001;21:335-9. Saeed SA, Bloch RM, Antonacci DJ. Herbal and dietary supplements for treatment of anxiety disorders. *Am Fam Physician* 2007;76(4):549-56. Fux M, Levine J, Aviv A, Belmaker RH. Inositol treatment of obsessive-compulsive disorder. *Am J Psychiatry* 1996;153:1219-21. Fux M, Benjamin J, Belmaker RH. Inositol versus placebo augmentation of serotonin reuptake inhibitors in the treatment of obsessive-compulsive disorder: a double-blind cross-over study. *Int J Neuropsychopharmacol*. 1999;2:193-5. Nestler JE, Jakubowicz DJ, Reamer P, et al. Ovulatory and metabolic effects of D-chiro-inositol in the polycystic ovary syndrome. *N Engl J Med* 1999;340:1314-20. 3. *Metab Brain Dis*. 2004 Jun;19(1-2):125-34. Single photon emission computed tomography (SPECT) in obsessive-compulsive disorder before and after treatment with inositol. Carey PD1, Warwick J, Harvey BH, Stein DJ, Seedat S. *Eur Neuropsychopharmacol*. 1997 May;7(2):147-55. Controlled trials of inositol in psychiatry. Levine J1. *J Neurochem*. 2015 Apr;133(2):273-83. doi: 10.1111/jnc.12978. Epub 2014 Nov 17. Inositol synthesis regulates the activation of GSK-3 $\alpha$  in neuronal cells. Ye C1, Greenberg ML. *J Clin Psychopharmacol*. 2001 Jun;21(3):335-9. Double-blind, controlled, crossover trial of inositol versus fluvoxamine for the treatment of panic disorder. Palatnik A1, Frolov K, Fux M, Benjamin J. *Am J Psychiatry*. 2006 Feb;163(2):210-6. Treatment-resistant bipolar depression: a STEP-BD equipose randomized effectiveness trial of antidepressant augmentation with lamotrigine, inositol, or risperidone. Nierenberg AA1, Ostacher MJ, Calabrese JR, Ketter TA, Marangell LB, Miklowitz DJ, Miyahara S, Bauer MS, Thase ME, Wisniewski SR, Sachs GS. *Bipolar Disord*. 2000 Mar;2(1):47-55. Inositol as an add-on treatment for bipolar depression. Chengappa KN1, Levine J, Gershon S, Mallinger AG, Hardan A, Vagnucci A, Pollock B, Luther J, Buttenfield J, Verfaillie S, Kupfer DJ. *Eur Neuropsychopharmacol*. 1997 May;7(2):147-55. Controlled trials of inositol in psychiatry. Levine J1. 4. *Metab Brain Dis*. 2004 Jun;19(1-2):125-34. Single photon emission computed tomography (SPECT) in obsessive-compulsive disorder before and after treatment with inositol. Carey PD1, Warwick J, Harvey BH, Stein DJ, Seedat S. *Hum Psychopharmacol*. 2011 Oct;26(7):526-30. doi: 10.1002/hup.1241. Myo-inositol in the treatment of premenstrual dysphoric disorder. Gianfranco C1, Vittorio U, Silvia B, Francesco D. *IUBMB Life*. 2002 Jan;53(1):25-36. Inositol polyphosphate 5-phosphatases: lipid phosphatases with flair. Mitchell CA1, Gurung R, Kong AM, Dyson JM, Tan A, Ooms LM. *Anxiety*. 1996;2(1):51-2. Inositol treatment of post-traumatic stress disorder. Kaplan Z1, Amir M, Swartz M, Levine J. *Int Clin Psychopharmacol*. 1999 Nov;14(6):353-6. Inositol augmentation of serotonin reuptake inhibitors in treatment-refractory obsessive-compulsive disorder: an open trial. Seedat S1, Stein DJ.

**PRECAUTIONS** • Do not exceed the recommended daily dose. • Dietary supplements should not be used as a substitute of a balanced diet. • Keep away from young children. • This product is not intended for the prevention, cure or treatment of a human disease. • Consult with your doctor if you are pregnant, breast-feeding, taking pharmaceutical treatment or having health problems.

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