

Tri-B-100

Time Released

DESCRIPTION

Tri-B-100 provided by Douglas Laboratories® is a six to eight hour timed release formulation of all the B vitamins as well as several other important dietary components metabolically associated with the B vitamins.

FUNCTIONS

As co-enzymes, the B vitamins are essential components in most major metabolic reactions. They play an important role in energy production, including the metabolism of lipids, carbohydrates, and proteins. B vitamins are also important for blood cells, hormones, and nervous system function. † As water-soluble substances, B vitamins are not generally stored in the body in any appreciable amounts (with the exception of vitamin B-12). Therefore, the body needs an adequate supply of B vitamins on a daily basis.

Thiamin, riboflavin, and niacin are all essential coenzymes in energy production. Thiamin is converted quickly into thiamin pyrophosphate, which is required for glycolytic and Krebs cycle reactions. Thiamin also appears to be related to nerve impulse transmission. Riboflavin is a component of the coenzymes FAD and FMN, which are intermediates in many redox reactions, including energy production and cellular respiration reactions.

Niacin is also a component of the coenzymes NAD and NADP, which are involved in energy production, as well as biosynthetic processes. †

Vitamin B-6 is a coenzyme in amino acid metabolism. It is necessary for the metabolism of homocysteine and the conversion of tryptophan into niacin. Vitamin B-6 dependent enzymes are also needed for the biosynthesis of many neurotransmitters, including serotonin, epinephrine, and norepinephrine. Vitamin B-12 and folic acid are coenzymes in DNA and RNA metabolism. Both of these B vitamins assist in homocysteine metabolism. Folic acid serves as a methyl donor and vitamin B-12 as a coenzyme in the conversion of homocysteine to methionine.

Biotin and pantothenic acid are also coenzymes essential for energy production from dietary fats, carbohydrates, and proteins. † Pantothenic acid is a component of coenzyme A and of phosphopantetheine, and is therefore essential for Krebs cycle operation. Biotin is involved in many carboxylation reactions associated with gluconeogenesis, the Krebs cycle, and fatty acid synthesis.

While not truly vitamins choline, inositol, and para-aminobenzoic acid are important nutrients related to B vitamins. Choline serves as a methyl donor for homocysteine metabolism following conversion to betaine, as a structural component of cellular membranes as phosphatidylcholine, and as a neurotransmitter as acetylcholine. Inositol aids in the cellular response to hormonal signals, serves as a source of arachidonic acid, and is active in cellular membranes as phosphatidylinositol. Finally, para-aminobenzoic acid has antioxidant properties.

INDICATIONS

Tri-B-100 tablets may be a useful dietary supplement for those individuals who wish to increase their intake of the B vitamins to help maintain the higher energy levels needed for stress control.

FORMULA (#7913)

One Timed Release B-Complex Tablet Contains:

Thiamine (Vitamin B-1).....	100 mg
Riboflavin (Vitamin B-2).....	100 mg
Vitamin B-6 (Pyridoxine HCL)	100 mg
Vitamin B-12 (as cyanocobalamin)	100 mcg
Niacinamide.....	100 mg
Folic Acid.....	400 mcg
Pantothenic Acid	100 mg
d-Biotin	100 mcg
Choline Bitartrate.....	100 mg
Inositol	100mg
PABA.....	100 mg

Tri-B-100**Time Released**

(Para-Aminobenzoic Acid)

In a base designed to provide prolonged release over a 6 to 8 hour period.

SUGGESTED USE

Adults take 1 tablet daily or as directed by a healthcare professional.

SIDE EFFECTS

No adverse effects have been reported.

STORAGE

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

REFERENCES

Depeint F, et al. *Chem Biol Interact.* 2006 Oct 27;163(1-2):94-112.

Kräutler B. *Subcell Biochem.* 2012;56:323-46. doi: 10.1007/978-94-007-2199-9_17.

Wang YP, et al. *Physiol Res.* 2014;63(3):341-50.

Keith ME, et al. *J Am Diet Assoc.* 2009 Aug;109(8):1406-10. doi: 10.1016/j.jada.2009.05.011.

Das UN. 2015 Feb;31(2):283-291. doi: 10.1016/j.nut.2014.08.011.

Morris MS. *Adv Nutr.* 2012 Nov 1;3(6):801-12. doi: 10.3945/an.112.002535.

Miller AL. *Altern Med Rev.* 2003 Feb;8(1):7-19.

Shakir KM, et al. *Mayo Clin Proc.* 1995 Jun;70(6):556-8.

Ulvik A, et al. *Am J Clin Nutr.* 2013 Oct;98(4):934-40. doi: 10.3945/ajcn.113.064998.

Schaeffer MC, Gretz D, Gietzen DW, Rogers QR. *J Nutr.* 1998 Oct;128(10):1829-35.

Liu Z, Choi SW, Crott JW, Smith DE, Mason JB. *Int J Cancer.* 2008 Aug 1;123(3):519-25. doi: 10.1002/ijc.23599.

Tayebati SK, Amenta F. *Clin Chem Lab Med.* 2013 Mar 1;51(3):513-21. doi: 10.1515/cclm-2012-0559. Review. [Choline].

Bizzarri M, Carlomagno G. *Eur Rev Med Pharmacol Sci.* 2014 Jul;18(13):1896-903. [Inositol].

Galbinur T, et al. *J Ocul Pharmacol Ther.* 2009 Dec;25(6):475-82. doi:10.1089/jop.2009.0020. [PABA].

Lea R, et al. *Pharmacogenet Genomics.* 2009 Jun;19(6):422-8.

Tri-B-100
Time Released

For more information on Tri-B-100 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.

Manufactured by
Douglas Laboratories
600 Boyce Road
Pittsburgh, PA 15205
800-245-4440
douglaslabs.com



**You trust Douglas Laboratories.
Your patients trust you.**

© 2014 Douglas Laboratories. All Rights Reserved