

SOURCE  NATURALS®  
*Strategies for Wellness™*

# TMG

## TRIMETHYLGLYCINE

*For healthy blood vessels*

*Your circulatory system is a “river of life” for your trillions of cells that receive vital nutrients from this intricate, 60,000-mile network of blood vessels. Its proper function is essential to your health, especially to your heart and brain, because of their constant, life-supporting functions.*

*Researchers have found a correlation between artery health and an amino acid called homocysteine. They’ve also discovered that certain B vitamins and other nutrients can help maintain proper homocysteine levels. One of the most potent of these is Trimethylglycine. This natural compound is showing tremendous potential to support a healthy circulatory system.*



Numerous studies found that elevated levels of homocysteine in the blood may be the single factor most common to people with impaired circulatory systems. Homocysteine is an amino acid that results from normal metabolic reactions in the body; however, it may be toxic at high levels.

### Methylation Controls Homocysteine Levels

Homocysteine is created in the body from the metabolism of *methionine*, an essential dietary amino acid. Methionine is obtained mostly from meat and dairy products; it is required to build human proteins. In a healthy person, homocysteine is converted back into methionine as part of a closed-loop regulatory mechanism that prevents homocysteine levels from becoming too high. The process is called methylation, because a methyl group (CH<sub>3</sub>: one carbon and three hydrogen atoms) detaches from a “donor” molecule and attaches onto the homocysteine molecule, converting this potentially toxic amino acid back into methionine.

A poor diet (high in fat or protein, low in vegetables and whole grains), smoking, or genetic predisposition can disrupt this process, causing an accumulation of homocysteine in the bloodstream. Age is another factor because the elderly may have difficulty absorbing B vitamins from food. Also, for women, homocysteine levels rise around the time of menopause.

### Reducing Homocysteine Levels with Trimethylglycine

Elevated homocysteine levels are easily reduced with the intake of certain nutrients involved in methylation. Such nutrients include folic acid with its cofactors, vitamins B6 and B12, plus what is proving to be the most efficient and cost-effective methyl donor of all, Trimethylglycine (TMG).

TMG (also known as *anhydrous betaine*) is a naturally occurring phytonutrient found in a variety of plants and animals, with highest concentrations in beets, leafy green vegetables, and legumes. Since it can be difficult to eat enough of these foods to provide the body with sufficient methyl groups, supplementation may be necessary. Studies have demonstrated that TMG, folic acid, and B12 can reduce elevated levels of homocysteine to normal. The best methyl donor is TMG, because it has 3 methyl groups. Furthermore, after losing its methyl group,

TMG becomes DMG (dimethylglycine), a well-recognized energy-boosting nutrient.

### Methylation and the Benefits of SAM

Methylation also increases the body's production of *S-adenosylmethionine* (SAM), an important substance required in numerous reactions involving proteins, phospholipids, and nucleic acids. Because SAM is needed in neurotransmitter metabolism, it is being studied for its role in cognition and for its calming influence on the central nervous system. Researchers are also discovering that SAM may help protect the liver.

### Bringing Nutrients to Light

Source Naturals is dedicated to bringing you the finest nutrients modern research has to offer, including detailed information on how they function in the human body. Compelling research reveals how TMG supports the health of blood vessels. Considering the circulatory system's vulnerability today, this important nutritional supplement seems destined to become a mainstay in health programs of the next century.

Start building your nutritional bridge to a healthy future with Source Naturals TRIMETHYLGLYCINE.

Source Naturals also offers related nutritional supplements: folic acid and all the B vitamins – both individually and in combination – including a revolutionary line of sublingual COENZYMATED™ B's, the most bioavailable and experiential form of these essential nutrients. Our premier formulation for the heart and circulatory system is HEART SCIENCE™, a synergistic combination of powerful heart-supporting nutrients.

### References

- Dudman, N.P., et al. (1993). *Arteriosclerosis and Thrombosis* 13(9): 1253-60.
- Kagan, B.L., et al. (1990). *American Journal of Psychiatry* 147(5): 591-95.
- Mallinow, M.R. (1995). *Clinical Chemistry* 41(1): 173-76.
- Stampfer, Meir J., et al. (1992). *JAMA* 268(7): 877-81.

SOURCE  NATURALS®  
Strategies for Wellness™

The above information has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Visit our web site at: [www.sourcenaturals.com](http://www.sourcenaturals.com)

© 1996 Source Naturals, Inc.  Printed on recycled paper SN-TM-L-397