

SAMe + TMG



Clinical Applications

- Supports Biochemical Reactions Requiring Methyl Groups*
- Supports Formation of Neurotransmitters*
- Supports Healthy Mood, Alertness, and Concentration*
- Supports Joint Comfort*
- Supports Mitochondrial Glutathione Levels in the Liver*

*SAMe + TMG is a sweet, yet slightly tart lemon-flavored powder. SAMe (S-adenosyl-L-methionine) and TMG (trimethylglycine) are naturally occurring substances that act as methyl donors during vital biochemical processes in the body. Methylation is essential to normal cell health and function. It can decline with age or chronic alcohol consumption, and it can be limited in some individuals due to their genetic makeup.**

All The 3rd Opinion Inc Formulas Meet or Exceed cGMP Quality Standards

Discussion

S-Adenosyl-Methionine, SAMe, a naturally occurring substance and a primary methyl group (CH₃) donor for biochemical reactions in the brain and other parts of the body, is formed from methionine and adenosine triphosphate (ATP) in a methionine adenosyltransferase-catalyzed reaction. Following donation of a methyl group, SAMe is converted to S-adenosyl-homocysteine, which initiates the transulfuration pathway in the liver that results in glutathione generation. Methyl groups are received by proteins, DNA, RNA, creatine, and hormones. In normal cells, the transfer of methyl groups is also critical to the development and fluidity of the membrane. The formation of neurotransmitters, especially norepinephrine and dopamine, is dependent upon transmethylation. Vitamins B12 and folate are essential co-factors in the metabolism of SAMe.

SAMe has been studied as a supportive nutrient in liver concerns, musculoskeletal disorders, cognitive disorders, premenstrual disorders, and pregnancy-related issues, although most research has focused upon its use to support the body's response to joint inflammation and low mood.*

From day 10 of a 30-day double-blind, placebo-controlled, randomized trial (N = 80), a group of postmenopausal women treated with 1600mg/d SAMe showed significantly greater improvement in symptoms of low mood in comparison to a placebo group of postmenopausal women.^[1] In another study, the efficacy of 1600mg/d SAMe orally in improving low mood was comparable with that of 150mg/d imipramine orally; however, SAMe was significantly better tolerated.^[2] In a small, four-week, double-blind, randomized protocol comparing oral SAMe with oral desipramine (N=26), 62% of the SAMe group improved and 50% of the drug group improved. These results were based on standardized test scores. The study revealed a significant correlation between plasma SAMe levels and the degree of clinical improvement in individuals with low mood, regardless of treatment type.*^[3]

Whereas many forms of SAMe on the market contains less than 44% SS isomer, the form the body can most readily use, The 3rd Opinion Inc's cost-effective formula contains a 70% or higher SS isomer. Nitrogen-purged foil sachets assure maximum stability which might otherwise be diminished by 50%, within in a year.*

Trimethylglycine (TMG), also known as betaine, is the amino acid, glycine, attached to three methyl (CH₃) groups. When TMG donates a single methyl group, it is converted to dimethylglycine (DMG), which is then still capable of donating two methyl groups. These groups can be added to homocysteine, which is subsequently converted to methionine and, ultimately, to SAMe. TMG has been found to protect liver cells and lower homocysteine, and may also support healthy mood. In healthy volunteers with normal plasma homocysteine concentrations, TMG supplementation lowers plasma fasting homocysteine, dose-dependently, to as much as 20% with a 6g/d dose. It also reduces the increase in homocysteine after methionine loading by up to 50%.^[5,6] TMG is thought to stimulate activity of the enzyme, betaine:homocysteine methyltransferase.*^[7]

***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.**



Supplement Facts

Serving Size: 1 Sachet (2.9 grams)
Servings Per Container: 30

	Amount Per Serving	%Daily Value
S-adenosyl-L-methionine	400 mg	**
Betaine Anhydrous (trimethylglycine)	600 mg	**

** Daily Value not established.

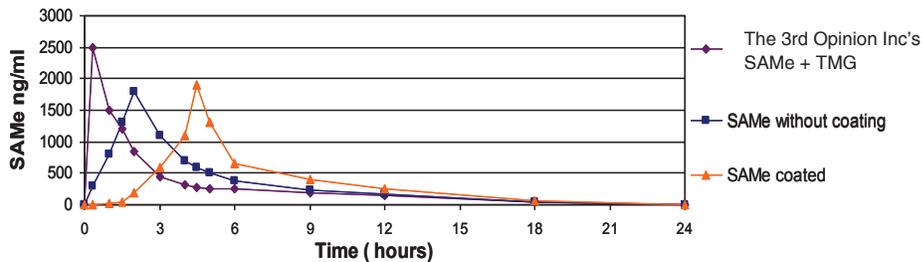
Other Ingredients: Sorbitol, calcium carbonate, citric acid, malic acid, stearic acid, calcium chloride, calcium oxide, silica, turmeric extract (natural color), and natural lemon flavor.

European Patent # EP2189154A1

Directions

Consume one sachet one to four times daily away from meals, or as directed by your healthcare practitioner. Preferably pour a small amount of the contents of a sachet directly into the mouth and allow contents to dissolve. Then repeat process until contents of the entire sachet have dissolved in the mouth. Alternatively, contents may be added to 2-4 oz of water or preferred liquid; stir and drink within 15 minutes.

Children and pregnant or lactating women should consult their healthcare practitioner prior to use. Use special caution in individuals with bipolar disorder. Do not use if tamper seal is damaged.



Preliminary bioavailability data demonstrating the superior absorption 20 minutes following administration of the SAME ingredient in SAME + TMG compared to competing coated/uncoated SAME formulations.

References

- Salmaggi P, et al. Double-blind, placebo-controlled study of S-adenosyl-L-methionine in depressed postmenopausal women. *Psychother Psychosom.* 1993;59(1):34-40. [PMID: 8441793]
- Delle Chiaie R, et al. Efficacy and tolerability of oral and intramuscular S-adenosyl-L-methionine 1,4-butanedisulfonate (SAME) in the treatment of major depression: comparison with imipramine in 2 multicenter studies. *Am J Clin Nutr.* 2002 Nov;76(5):1172S-6S. [PMID: 12418499]
- Bell KM, et al. S-adenosylmethionine blood levels in major depression: changes with drug treatment. *Acta Neurol Scand Suppl.* 1994;154:15-8. [PMID: 7941961]
- Fernández-Checa JC, et al. S-Adenosyl-L-methionine and mitochondrial reduced glutathione depletion in alcoholic liver disease. *Alcohol* 2002 Jul;27(3):179-83. [PMID: 12163147]
- Schwab U, et al. Orally administered betaine has an acute and dose-dependent effect on serum betaine and plasma homocysteine concentrations in healthy humans. *J Nutr.* 2006 Jan;136(1):34-8. Erratum in: *J Nutr.* 2007 Apr;137(4):1124. [PMID: 16365055]
- Olthof MR, Verhoef P. Effects of betaine intake on plasma homocysteine concentrations and consequences for health. *Curr Drug Metab.* 2005 Feb;6(1):15-22. Review. [PMID: 15720203]
- Wang JA, et al. Betaine:homocysteine methyltransferase--a new assay for the liver enzyme and its absence from human skin fibroblasts and peripheral blood lymphocytes. *Clin Chim Acta* 1991 Dec 31;204(1-3):239-49. [PMID: 1819467]

Does Not Contain

Wheat, gluten, corn protein, yeast, soy, animal or dairy products, fish, shellfish, egg, artificial colors, artificial sweeteners, or preservatives.

***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.**

