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# S-Adenosyl-L-Methionine Disulfate P-Toluene-Sulfonate

National Cancer Institute

## Source

National Cancer Institute. *S-Adenosyl-L-Methionine Disulfate P-Toluene-Sulfonate*. NCI Thesaurus. Code C71745.

The disulfate salt of the stable p-toluene-sulfonate complex of s-adenosyl-L-methionine (SAME) with chemopreventive activity. SAME disulfate p-toluene-sulfonate undergoes hydrolytic conversion to its active compound SAME within cells. Although the mechanism of action is largely unknown, SAME attenuates experimental liver damage and prevents experimental hepatocarcinogenesis. In addition, SAME may reduce mitochondrial cytochrome C release, caspase 3 activation, and poly(ADP-ribose) polymerase cleavage, and attenuate okadaic acid-mediated hepatocyte apoptosis in a dose-dependent manner. SAME is an essential compound in cellular transmethylation reactions and a precursor of polyamine and glutathione synthesis in the liver; SAME deficiency is associated with chronic liver disease-associated decreases in the activity of methionine adenosyltransferase 1A (MAT 1A), the enzyme that catalyzes the production of SAME as the first step in methionine catabolism.