5-Methyltetrahydrofolic Acid
Item No. 16159

CAS Registry No.: 134-35-0
Formal Name: N-[4-[[2-amino-3,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridinyl]methyl]amino]benzoyl]-L-glutamic acid
Synonyms: 5-methyl THF, Pefolic A
MF: C20H25N7O6
FW: 459.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_{max}: 217, 294 nm

Laboratory Procedures
For long term storage, we suggest that 5-methyltetrahydrofolic acid (5-methyl THF) be stored as supplied at -20°C. It should be stable for at least two years.

5-methyl THF is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-methyl THF in the solvent of choice. 5-methyl THF is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 5-methyl THF in these solvents is approximately 20 and 10 mg/ml, respectively.

5-methyl THF is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 5-methyl THF should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 5-methyl THF has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

5-methyl THF is a biologically active form of folic acid that functions, in conjunction with vitamin B12, as a methyl-group donor involved in the conversion of homocysteine to methionine.1,2 The availability of methyl groups is essential for a variety of methylation reactions including the synthesis of DNA and proper neural tube closure.3 It has been used to restore nitric oxide-generating activity in cases of familial hypercholesterolemia or hyperhomocysteinemia, reducing homocysteine levels and improving vascular endothelial function.3,4

References

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