

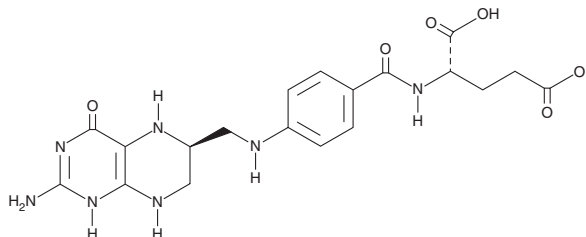
PRODUCT INFORMATION



(6S)-Tetrahydrofolic acid

Item No. 18263

CAS Registry No.: 71963-69-4
Formal Name: N-[4-[[[(6S)-2-amino-3,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]]methyl]amino]benzoyl]-L-glutamic acid
MF: C₁₉H₂₃N₇O₆
FW: 445.4
Purity: ≥95%
UV/Vis.: λ_{max}: 300 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(6S)-Tetrahydrofolic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the (6S)-tetrahydrofolic acid in the solvent of choice, which should be purged with an inert gas. (6S)-Tetrahydrofolic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (6S)-tetrahydrofolic acid in these solvents is approximately 20 and 10 mg/ml, respectively.

(6S)-Tetrahydrofolic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (6S)-tetrahydrofolic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (6S)-Tetrahydrofolic acid 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.

Description

(6S)-Tetrahydrofolic acid is a diastereomer of tetrahydrofolic acid (Item No. 20526), a reduced form of folic acid that serves as a cofactor in methyltransferase reactions and is the major one-carbon carrier in one carbon metabolism.¹ (6S)-Tetrahydrofolic acid is 1,000-fold more active than the (6R) form at promoting the binding of fluorodeoxyuridylate to thymidylate synthase and 600-fold more active as a growth factor of *Pediococcus cerevisiae*.² (6S)-Tetrahydrofolic acid also has a low affinity and high dissociation rate for folate-binding protein.³

References

1. Ragsdale, S. W. Catalysis of methyl group transfers involving tetrahydrofolate and B₁₂. *Vitamins and Hormones* **79**, 293-324 (2008).
2. Sato, J. K., Newman, E. M., and Moran, R. G. Preparation of (6R)-tetrahydrofolic acid and (6R)-5-formyltetrahydrofolic acid of high stereochemical purity. *Anal. Biochem.* **154**(2), 516-524 (1986).
3. Nygren-Babol, L., Sternesjö, Å., Jägerstad, M. *et al.* Affinity and rate constants for interactions of bovine folate-binding protein and folate derivatives determined by optical biosensor technology. Effect of stereoselectivity. *J. Agric. Food. Chem.* **53**(13), 5473-5478 (2005).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM