

PRODUCT INFORMATION



Levomefolate-¹³C-d₃

Item No. 29579

CAS Registry No.: 1356019-94-7
Formal Name: (4-((((S)-2-amino-5-(methyl-¹³C-d₃)-4-oxo-1,4,5,6,7,8-hexahydropteridin-6-yl)methyl)amino)benzoyl)-L-glutamic acid

Synonyms: L-Methyl Folate-¹³C-d₃,
[6S]-5-Methyltetrahydrofolate-¹³C-d₃,
[6S]-5-MTHF-¹³C-d₃

MF: C₁₉[¹³C]H₂₂D₃N₇O₆

FW: 463.5

Chemical Purity: ≥95% (Levomefolate)

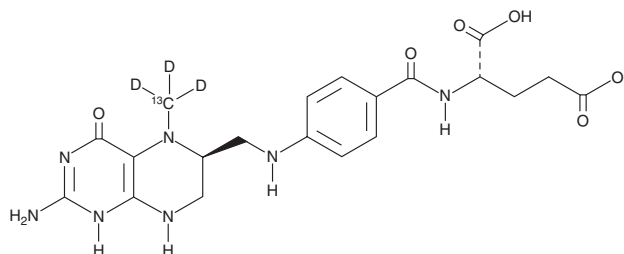
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀

Supplied as: A 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

Levomefolate-¹³C-d₃ is intended for use as an internal standard for the quantification of levomefolate (Item No. 21616) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Levomefolate-¹³C-d₃ is supplied as a solid. A stock solution may be made by dissolving the levomefolate-¹³C-d₃ in the solvent of choice, which should be purged with an inert gas. Levomefolate-¹³C-d₃ is slightly soluble in DMSO (warmed).

Description

Levomefolate is the single (S) isomer of 5-methyltetrahydrofolic acid (Item No. 16159) and an endogenous active form of folic acid (Item No. 20515).¹ It donates a methyl group to homocysteine in the biosynthesis of methionine.² Levomefolate (2 mg/kg) prevents decreases in circulating polymorphonucleates induced by methotrexate (Item No. 13960) in an L1210 murine skin lymphocytic leukemia model, and it increases survival in the same model when administered in combination with methotrexate.³ Formulations containing levomefolate have been used as dietary supplements, as well as in oral contraceptives for the prevention of neural tube defects in unintended pregnancies.

References

1. Wang, X., Shen, F., Freisheim, J.H., *et al.* Differential stereospecificities and affinities of folate receptor isoforms for folate compounds and antifolates. *Biochem. Pharmacol.* **44(9)**, 1898-1901 (1992).
2. Ragsdale, S.W. Catalysis of methyl group transfers involving tetrahydrofolate and B₁₂. *Vitam. Horm.* **79**, 293-324 (2008).
3. Simile, M.M., DeMiglio, M.R., Nufri, A., *et al.* l-5-formyltetrahydrofolate and l-5-methyltetrahydrofolate rescue in L1210 leukemia treated with high methotrexate doses. *Res. Commun. Chem. Pathol. Pharmacol.* **81(2)**, 251-254 (1993).

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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