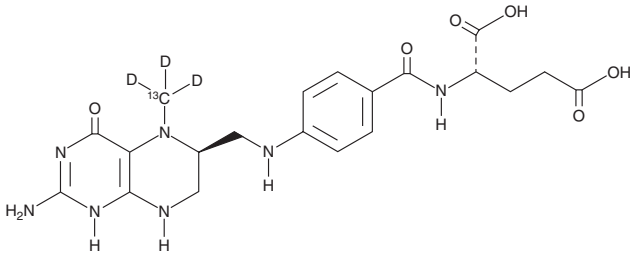
PRODUCT INFORMATION

Levomefolate-^{13}C-d$_3$

Item No. 29579

CAS Registry No.: 1356019-94-7
Formal Name: (4-((((S)-2-amino-5-(methyl-^{13}C-d$_3$)-4-oxo-1,4,5,6,7,8-hexahydropteridin-6-yl)methyl)amino)benzoyl)-L-glutamic acid
Synonyms: L-Methyl Folate-^{13}C-d$_3$, [6S]-5-Methyltetrahydrofolate-^{13}C-d$_3$, [6S]-5-MTHF-^{13}C-d$_3$
MF: $C_{19}[^{13}C]H_{22}D_3N_7O_6$
FW: 463.5
Chemical Purity: ≥95% (Levomefolate)
Deuterium Incorporation: ≥99% deuterated forms (d$_1$-d$_3$); ≤1% d$_0$
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-^{13}C-d$_3$ 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-^{13}C-d$_3$ is supplied as a solid. A stock solution may be made by dissolving the levomefolate-^{13}C-d$_3$ in the solvent of choice, which should be purged with an inert gas. Levomefolate-^{13}C-d$_3$ 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 B$_{12}$. *Vitam. Horm.* **79**, 293-324 (2008).
3. Simile, M.M., DeMiglio, M.R., Nufris, 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).

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