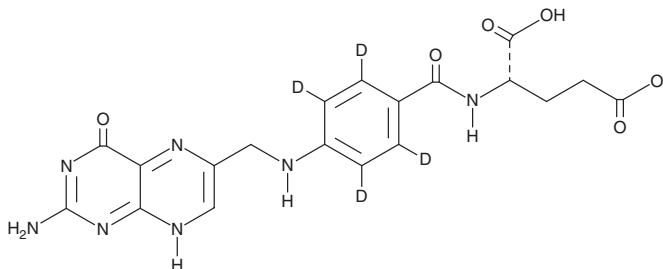


PRODUCT INFORMATION



Folic Acid-d₄ Item No. 28485

CAS Registry No.: 171777-72-3
Formal Name: N-[4-[[[(2-amino-3,4-dihydro-4-oxo-6-pteridiny)methyl]amino]benzoyl-2,3,5,6-d₄]-L-glutamic acid
Synonym: Vitamin B₉-d₄
MF: C₁₉H₁₅D₄N₇O₆
FW: 445.4
Chemical Purity: ≥95% (Folic Acid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤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

Folic acid-d₄ is intended for use as an internal standard for the quantification of folic acid (Item No. 20515) 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).

Folic acid-d₄ is supplied as a solid. A stock solution may be made by dissolving the folic acid-d₄ in the solvent of choice, which should be purged with an inert gas. Folic acid-d₄ is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of folic acid-d₄ in these solvents is approximately 20 and 10 mg/ml, respectively.

Description

Folic acid is an essential B vitamin.¹ It is converted to folate *in vivo*, which is a necessary cofactor for a variety of biological processes, including nucleotide synthesis and, thus, DNA synthesis and repair, among others. A deficiency in dietary folic acid can lead to a range of developmental and cognitive disorders, most prominently neural tube defects and congenital heart defects.¹⁻³

References

1. Czeizel, A.E., Dudás, I., Vereczkey, A., *et al.* Folate deficiency and folic acid supplementation: The prevention of neural-tube defects and congenital heart defects. *Nutrients* **5(11)**, 4760-4775 (2013).
2. Nair, M.K., Augustine, L.F., and Konapur, A. Food-based interventions to modify diet quality and diversity to address multiple micronutrient deficiency. *Front. Public Health* **3**, 277 (2016).
3. Sarmah, S., Muralidharan, P., and Marrs, J.A. Common congenital anomalies: Environmental causes and prevention with folic acid containing multivitamins. *Birth Defects Res. C Embryo Today* **108(3)**, 274-286 (2016).

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