

Product Data Sheet

Product Name: Folic Acid-d4

Cat. No.: GC45456

Chemical Properties

Cas. No. 171777-72-3

SMILES O=C1C2=NC(CNC3=C([2H])C([2H])=C(C(N[C@H](C(O)=O)CCC(O)=O)=O)C([2H])=C3[2H])=CNC2=NC(N)=N1

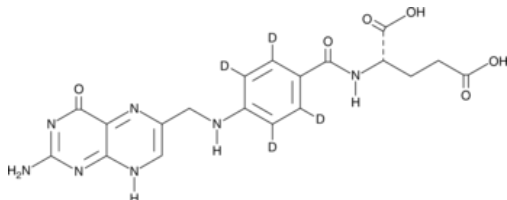
Formula C₁₉H₁₅D₄N₇O₆ M.Wt 445.4

Solubility DMF: 10 mg/ml, DMSO: 20 mg/ml, DMSO:PBS (pH 7.2) (1:1): 0.5 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Folic acid-d4 is intended for use as an internal standard for the quantification of folic acid by GC- or LC-MS. 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.^{1,2,3}

References

1. Czeizel, A.E., Dudás, I., Vereczkey, A., et al. Folate deficiency and folic acid supplementation: The

Caution: Product has not been fully validated for medical applications. For research use only.

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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).

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