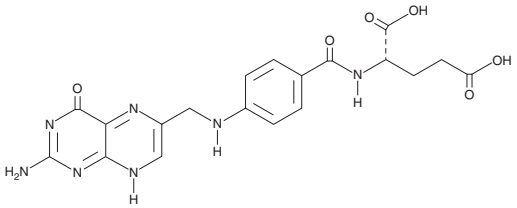
PRODUCT INFORMATION

Folic Acid

Item No. 20515

CAS Registry No.: 59-30-3
Formal Name: N-[4-[[(2-amino-3,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-L-glutamic acid
Synonyms: NSC 3073, Vitamin B_9
MF: $C_{19}H_{19}N_7O_6$
FW: 441.4
Purity: ≥98%
UV/Vis.: λ_{max}: 283 nm
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥4 years



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

Laboratory Procedures

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

Folic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, folic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Folic 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

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).

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