

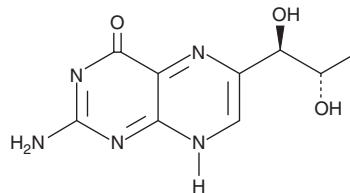
PRODUCT INFORMATION



L-Biopterin

Item No. 10007662

CAS Registry No.: 22150-76-1
Formal Name: 2-amino-6-[(1R,2S)-1,2-dihydroxypropyl]-4(1H)-pteridinone
Synonyms: L-erythro-Biopterin, NSC 339699
MF: C₉H₁₁N₅O₃
FW: 237.2
Purity: ≥98%
UV/Vis.: λ_{max}: 276, 348 nm
Supplied as: A crystalline 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

L-Biopterin is supplied as a crystalline solid. A stock solution may be made by dissolving the L-biopterin in the solvent of choice, which should be purged with an inert gas. L-Biopterin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of L-biopterin in these solvents is approximately 1 and 0.3 mg/ml, respectively.

L-Biopterin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, L-biopterin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. L-Biopterin 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

L-Biopterin is the oxidized form of tetrahydro-L-biopterin (BH₄), a nitric oxide synthase (NOS) cofactor. L-Biopterin can be reduced to BH₄ via thioredoxin reductase followed by dihydropteridine reductase or reduced glutathione. It is extremely toxic to human melanocytes in culture (IC₅₀ = 0.2 μM after 48 hrs).¹ L-Biopterin is rarely found under physiological conditions except in the epidermis of patients with the depigmentation disorder Vitiligo.²

References

- Schallreuter, K.U., Büttner, G., Pittelkow, M.R., *et al.* Cytotoxicity of 6-biopterin to human melanocytes. *Biochem. Biophys. Res. Commun.* **204(1)**, 43-48 (1994).
- Moore, J., Wood, J.M., and Schallreuter, K.U. Evidence for specific complex formation between α-melanocyte stimulating hormone and 6(R)-L-erythro-5,6,7,8-tetrahydrobiopterin using near infrared fourier transform raman spectroscopy. *Biochemistry* **38(46)**, 15317-15324 (1999).

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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