

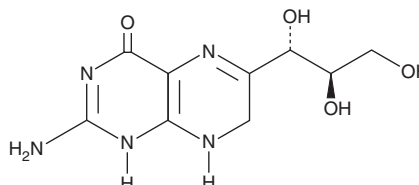
PRODUCT INFORMATION



7,8-Dihydroneopterin

Item No. 27606

CAS Registry No.: 1218-98-0
Formal Name: 2-amino-7,8-dihydro-6-[(1S,2R)-1,2,3-trihydroxypropyl]-4(3H)-pteridinone
Synonym: D-erythro-7,8-Dihydroneopterin
MF: C₉H₁₃N₅O₄
FW: 255.2
Purity: ≥85%
UV/Vis.: λ_{max}: 217, 235, 275, 346 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

7,8-Dihydroneopterin is supplied as a solid. A stock solution may be made by dissolving the 7,8-dihydroneopterin in the solvent of choice, which should be purged with an inert gas. 7,8-Dihydroneopterin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 7,8-dihydroneopterin in these solvents is approximately 1 and 0.3 mg/ml, respectively.

7,8-Dihydroneopterin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 7,8-dihydroneopterin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 7,8-Dihydroneopterin 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

7,8-Dihydroneopterin is a pteridine with antioxidant activities.¹ It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals in a cell-free assay when used at concentrations ranging from 20 to 100 μM. 7,8-Dihydroneopterin (2-10 μM) inhibits copper ion-induced oxidation of LDL in a cell-free assay and decreases thiobarbituric acid reactive substances (TBARS) produced by THP-1 cells cultured with LDL.^{2,3} It inhibits necrosis induced by oxidized LDL (oxLDL) in U937, but not THP-1, cells when used at a concentration of 200 μM.⁴

References

1. Oettl, K., Greilberger, J., and Reibnegger, G. Dihydroneopterin as a scavenger of nitrogen centered radicals. *Pteridines* **11**(3), 90-93 (2000).
2. Gieseg, S.P., Reibnegger, G., Wachter, H., et al. 7,8 Dihydroneopterin inhibits low density lipoprotein oxidation in vitro. Evidence that this macrophage secreted pteridine is an anti-oxidant. *Free Radic. Res.* **23**(2), 123-136 (1995).
3. Gieseg, S.P. and Cato, S. Inhibition of THP-1 cell-mediated low-density lipoprotein oxidation by the macrophage-synthesised pterin, 7,8-dihydroneopterin. *Redox Rep.* **8**(2), 113-115 (2003).
4. Baird, S.K., Reid, L., Hampton, M.B., et al. OxLDL induced cell death is inhibited by the macrophage synthesised pterin, 7,8-dihydroneopterin, in U937 cells but not THP-1 cells. *Biochim Biophys. Acta.* **1745**(3), 361-369 (2005).

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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