6-Biopterin

Cat. No.: HY-102015

CAS No.: 22150-76-1

Molecular Formula: $C_9H_{11}N_5O_3$

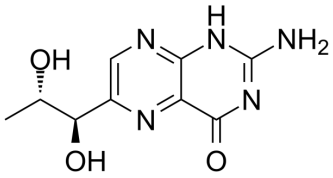
Molecular Weight: 237.22

Target: NO Synthase; Endogenous Metabolite

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.5 mg/mL (52.69 mM; ultrasonic and warming and heat to 75°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.2155 mL	21.0775 mL	42.1550 mL
	5 mM	0.8431 mL	4.2155 mL	8.4310 mL
	10 mM	0.4215 mL	2.1077 mL	4.2155 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 1 mg/mL (4.22 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (4.22 mM); Suspended solution

BIOLOGICAL ACTIVITY

Description

6-Biopterin (L-Biopterin), a pterin derivative, is a NO synthase cofactor.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

6-biopterin is extremely cytotoxic to human melanocytes under in vitro conditions. Thioredoxin reductase has the capacity to reduce 6-biopterin to q-BH2 where further reduction to 6-BH4 follows via dihydropteridine reductase or reduced glutathione. (6R)5,6,7,8 tetrahydrobiopterin undergoes redox-cycling by its oxidation to quinonoid dihydrobiopterin and to 6-biopterin through consecutive two electron oxidation reactions[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Schallreuter KU, et al. Cytotoxicity of 6-biopterin to human melanocytes. Biochem Biophys Res Commun. 1994 Oct 14;204(1):43-8.

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