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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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7,8-Dihydroneopterin

Cat. No.: HY-136341

CAS No.: 1218-98-0

Molecular Formula: $C_9H_{13}N_5O_4$

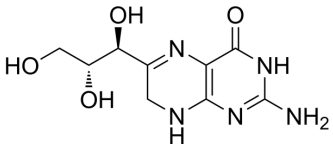
Molecular Weight: 255.23

Target: Apoptosis; NO Synthase; Endogenous Metabolite

Pathway: Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (979.51 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9180 mL	19.5902 mL	39.1803 mL
	5 mM	0.7836 mL	3.9180 mL	7.8361 mL
	10 mM	0.3918 mL	1.9590 mL	3.9180 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: ≥ 6.25 mg/mL (24.49 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.15 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.15 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

7,8-Dihydroneopterin, an inflammation marker, induces cellular apoptosis in astrocytes and neurons via enhancement of nitric oxide synthase (iNOS) expression. 7,8-Dihydroneopterin can be used in the research of neurodegenerative diseases[1].

IC_{50} & Target		
	iNOS	Human Endogenous Metabolite

In Vitro

7,8-Dihydroneopterin is a heterocyclic pteridine which produced and secreted by monocytes/macrophages upon stimulation with the cytokine interferon-γ (IFN-γ)[1].
7,8-Dihydroneopterin (0.1, 0.5, 1, 2.5, 5 mM; 2 days and 5 days) inhibits growth of U373MG astroeytes[1] .

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

Cell Viability Assay[1]

Cell Line:	Astrocytic cell line U373MG
Concentration:	0.1, 0.5, 1, 2.5, 5 mM
Incubation Time:	2 days and 5 days
Result:	After 2 days of treatment, a significantly lower cell number was observed for those cells treated with 5 mM and 2.5 mM. After incubation for 5 days concentrations of 1-5 mM completely abrogated acid phosphatase activity to background level found for complete cell culture medium. A significant cell growth inhibition was also visible for the cells incubated with 0.5 mM, whereas 0.1 mM did not alter cell growth.

REFERENCES

[1]. C Speth, et al. Inflammation Marker 7,8-dihydroneopterin Induces Apoptosis of Neurons and Glial Cells: A Potential Contribution to Neurodegenerative Processes. Immunobiology. 2000 Nov;202(5):460-76.

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