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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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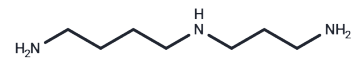
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Spermidine

Chemical Properties

CAS No. :	124-20-9
Formula:	C7H19N3
Molecular Weight:	145.25
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Spermidine (N-(3-Aminopropyl)-1,4-diaminobutane) inhibits NOS1 (nNOS). Spermidine binds and precipitates DNA and may be used for purification of DNA binding proteins. Spermidine activates PNK (polynucleotide kinase T4). Spermidine binds to and activates NMDA and has been shown to potentiate NMDA-induced currents in a concentration-dependent manner.
Targets(IC50)	Endogenous Metabolite
In vitro	<p>METHODS: Human neuroblastoma cells SH-SY5Y were treated with Spermidine (0.05-10 μM) for 24-48 h. Mitochondrial metabolic activity was measured by MTT assay and ATP production assay.</p> <p>RESULTS: No effect of Spermidine was observed after 24 h. 0.1 and 1 μM Spermidine significantly increased cellular metabolic activity and ATP production after 48 h of treatment. The most effective concentration of Spermidine, 0.1 μM, induced an 8.2% increase in metabolic activity and a 4% increase in ATP production. [1]</p> <p>METHODS: The retinal pigment epithelial cell line ARPE-19 was treated with H₂O₂ (300 μM) and Spermidine (10 μM) for 24 h. Apoptosis was detected by Flow cytometry.</p> <p>RESULTS: 300 μM H₂O₂ significantly increased the frequency of annexin V-positive cells to approximately 25%, but Spermidine significantly inhibited this increase. The results suggest that Spermidine attenuates H₂O₂-mediated oxidative stress-induced apoptosis in ARPE-19 cells. [2]</p>
In vivo	<p>METHODS: To study the effects on diabetes, Spermidine (10 mM) was administered orally in water to non-obese diabetic (NOD) mice (type 1 diabetes mouse model) for thirty weeks.</p> <p>RESULTS: Treatment of NOD mice with Spermidine resulted in a higher incidence of diabetes, although pancreatic insulinitis was not altered. Spermidine modulated pancreatic tissue polyamine levels and increased signs of autophagy. Spermidine resulted in an increase in the proportion of pro-inflammatory T-cells in the pancreatic lymph nodes (pLN) of diabetic mice. [3]</p>

Solubility Information

Solubility	5% DMSO+95% Saline: 1.67 mg/mL (11.47 mM) DMSO: 33.33 mg/mL (229.47 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.8847 mL	34.4234 mL	68.8468 mL
5 mM	1.3769 mL	6.8847 mL	13.7694 mL
10 mM	0.6885 mL	3.4423 mL	6.8847 mL
50 mM	0.1377 mL	0.6885 mL	1.3769 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Wang Q, Zhao Y, Qin X, et al. Deciphering relationship between depression and microbial molecules based on multi-omics: A case study of Chaigui Granules. Chinese Herbal Medicines. 2024

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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