Spermidine

Cat. No.: HY-B1776

CAS No.: 124-20-9

Molecular Formula: $C_7H_{19}N_3$

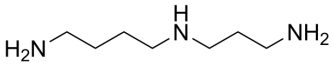
Molecular Weight: 145.25

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (688.47 mM; Need ultrasonic)

DMSO : 16.67 mg/mL (114.77 mM; ultrasonic and warming and adjust pH to 7 with HCl and heat to 80°C)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
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

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (344.23 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (17.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (17.21 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (17.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Spermidine maintains cell membrane stability, increases antioxidant enzymes activities, improving photosystem II (PSII), and relevant gene expression. Spermidine significantly decreases the H_2O_2 and $O_2^{\cdot-}$ contents[1].

IC_{50} & Target	Microbial Metabolite	Human Endogenous Metabolite

In Vitro	Spermidine plays a crucial role of against abiotic stresses, such as salt, drought, heat, and salinity-alkalinity stresses in tomato, cucumber, rice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- EMBO J. 2022 Dec 7;e111364.
- Virus Res. 2022 Feb 11;312:198708.
- bioRxiv. 2023 Jun 3.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Zhang L, et al. The Alleviation of Heat Damage to Photosystem II and Enzymatic Antioxidants by Exogenous Spermidine in Tall Fescue. Front Plant Sci. 2017 Oct 12;8:1747.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA