

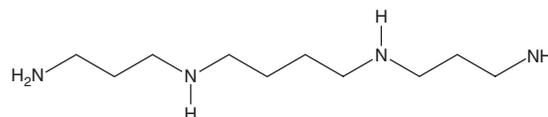
PRODUCT INFORMATION



Spermine

Item No. 18041

CAS Registry No.: 71-44-3
Formal Name: N¹,N⁴-bis(3-aminopropyl)-1,4-butanediamine
Synonyms: Gerontine, Musculamine, Neuridine, NSC 268508, 1,5,10,14-Tetraazatetradecane
MF: C₁₀H₂₆N₄
FW: 202.3
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Spermine is supplied as a crystalline solid. A stock solution may be made by dissolving the spermine in the solvent of choice. Spermine is soluble in water at a concentration of approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Spermine is an endogenous polyamine synthesized from the reaction of spermidine (Item No. 14918) with decarboxylated S-adenosylmethionine in the presence of the enzyme spermine synthase and is required for eukaryotic cell growth and protein synthesis.^{1,2} Intracellular spermine blocks inward rectifying K⁺ channels, whereas extracellular spermine acts as a mixed NMDA glutamate receptor agonist/antagonist at the polyamine site.³ Spermine has neuroprotective and anti-inflammatory effects and functions as a free radical scavenger to prevent DNA damage by reactive oxygen species.⁴

References

1. Wallace, H.M., Fraser, A.V., and Hughes, A. A perspective of polyamine metabolism. *Biochem. J.* **376**(Pt 1), (2003).
2. Igarashi, K. and Kashiwagi, K. Polyamines: Mysterious modulators of cellular functions. *Biochem. Biophys. Res. Commun.* **271**(3), 559-564 (2000).
3. Williams, K. Interactions of polyamines with ion channels. *Biochem. J.* **325** (Pt 2), 289-297 (1997).
4. Ha, H.C., Sirisoma, N.S., Kuppusamy, P., *et al.* The natural polyamine spermine functions directly as a free radical scavenger. *Proc. Natl. Acad. Sci. USA* **95**(19), 11140-11145 (1998).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM