



Product Information

Spermidine

Product Number **S 0266**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: $C_7H_{19}N_3$
Molecular Weight: 145.2
CAS Number: 124-20-9
Melting Point: 23-25 °C
Density: 0.925 g/ml
Refractive Index: 1.4790 (20 °C)

This product is suitable for molecular biology applications. DNase, RNase, or protease activities were not detected.

Spermidine is biogenic polyamine formed from putrescine, a precursor of spermine. It was first detected in human sperm, but occurs widely in nature. It is essential in both normal and neoplastic tissue growth.¹

Spermidine has a role in cell growth processes^{2,3} and the formation and interconversion of spermidine in mammalian cells has been reported.⁴

It has been studied in the regulation of tRNA methyltransferase activity⁵ and stimulates T4 polynucleotide kinase activity.⁶

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Spermidine is soluble in water (50 mg/ml), ethanol, and ether.⁷

Storage/Stability

Spermidine is very hygroscopic and air sensitive.

A solution can be formed for storage by dissolving 1.45 g in 10 ml of water and then sterilizing with a 0.22 μ m filter. Store this solution as single-use aliquots at -20 °C for no more than one month.⁷

Spermidine free base should be sterile-filtered and not autoclaved, if a sterile solution is necessary.

References

1. The Merck Index, 11th ed., Entry# 8698.
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3. Porter, C. W., and Bergeron, R. J., Spermidine Requirement for Cell Proliferation in Eukaryotic Cells: Structural Specificity and Quantitation. *Science*, **219(4588)**, 1083-1085 (1983).
4. Pegg, A. E., et al., Formation and Interconversion of Putrescine and Spermidine in Mammalian Cells. *Adv. Enzyme Regul.*, **19**, 427-451 (1980).
5. Mach, M., et al., Regulation of tRNA Methyltransferase Activities by Spermidine and Putrescine. Inhibition of Polyamine Synthesis and tRNA Methylation by Alpha-methylornithine or 1,3-diaminopropan-2-ol in Dictyostelium. *Biochem. J.*, **202(1)**, 153-162 (1982).
6. *Molecular Cloning: A Laboratory Manual*, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A.435.
7. *Molecular Cloning: A Laboratory Manual*, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A1.28.

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