3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Spermidine
Cell Culture Tested

Product Number **S 4139**
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 cell culture tested. No cytotoxicity is observed when spermidine was incubated with mammalian cells.

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 activity[5] 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 µm 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.
2. Janne, J., et al., Polyamines in Rapid Growth and Cancer. Biochim. Biophys. Acta, **473(3-4)**, 241-293 (1978).
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., and Russell, D.W., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A4.35.
7. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. F., and Russell, D.W., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A1.28.

ARO/HLD/RXR 2/04