

## TECHNICAL INFORMATION

Catalog Number: 152068, 194852

### Spermidine

Structure: free base



Molecular Formula: C<sub>7</sub>H<sub>19</sub>N<sub>3</sub>

Molecular Weight: 145.25

CAS # : 124-20-9

Synonym: N-[3-Aminopropyl]-1,4-butanediamine

Physical Description: Clear colorless liquid

Description: Spermidine is a biogenic polyamine formed from putrescine. It is essential in both normal and neoplastic tissue growth.<sup>1</sup>

Forms stable compounds with nucleic acids. Inhibits neuronal nitric oxide synthase (nNOS). Binds and precipitates DNA; may be used for purification of DNA binding proteins. Stimulates T<sub>4</sub> polynucleotide kinase activity.<sup>10</sup>

Spermidine has a role in cell growth processes<sup>6,9</sup> and the formation and interconversion of spermidine in mammalian cells has been reported.<sup>8</sup>

Solubility: Soluble in water, ethanol, ether. Solutions can be sterile filtered, do not autoclave. MP Biomedicals recommends solutions should be made fresh for each use; however, if this is not possible, aliquot solutions and store at -20°C or below for short periods.

#### Availability:

Catalog Number	Description	Size
152068	Spermidine free base	1 g 5 g 25 g
194852	Spermidine free base, molecular biology reagent	1 g 5 g 25 g

#### Also Available:

Catalog Number	Description	Size
<a href="#">100472</a>	<a href="#">Spermidine Trihydrochloride</a>	1 g 5 g 25 g
102943	Spermidine phosphate salt	1 g 5 g 10 g 25 g
<a href="#">152070</a>	<a href="#">Spermine free base, purity approximately 97%</a>	250 mg 500 mg 1 g 5 g
<a href="#">152069</a>	<a href="#">Spermine free base, purity approximately 85-90%</a>	1 g 5 g 10 g
<a href="#">100573</a>	<a href="#">Spermine diphosphate salt</a>	1 g 5 g
<a href="#">100474</a>	<a href="#">Spermine tetrahydrochloride</a>	1 g 5 g

#### Reference:

– Merck Index, 12th Ed., No 8893

– Baumann, P., et al., "Purification of human Rad51 protein by selective spermidine precipitation." *Mutat. Res.*, v. **384**, 65-72

(1997).

– Cram, L.S., *Meth. Cell Biol.*, **v. 33**, 377 (1990).

– Cull, M. and McHenry, C.S., "Preparation of extracts from prokaryotes." *Meth. Enzymol.*, **v. 182**, 147-153 (1990).

– Hu, J., et al., "Polyamines inhibit nitric oxide synthase in rat cerebellum." *Neurosci. Lett.*, **v. 175**, 41-45 (1994).

– Janne, J., et al., "Polyamines in rapid growth and cancer." *Biochim. Biophys. Acta*, **v. 473(3-4)**, 241-293 (1978).

– 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.*, **v. 202(1)**, 153-162 (1982).

– Pegg, A.E., et al., "Formation and interconversion of putrescine and spermidine in mammalian cells." *Adv. Enzyme Regul.*, **v. 19**, 427-451 (1980).

– Porter, C.W. and Bergeron, R.J., "Spermidine requirement for cell proliferation in eukaryotic cells: structural specificity and quantitation." *Science*, **v. 219(4588)**, 1083-1085 (1983).

– Sambrook, J.F., et al (eds.), *Molecular Cloning: A Laboratory Manual*, **3rd ed.**, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, p. A435 (2001).