



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

## Product Information

### Putrescine dihydrochloride

Product Number **P7505**

Store at Room Temperature

#### Product Description

Molecular Formula:  $C_4H_{12}N_2 \bullet 2HCl$

Molecular Weight: 161.1

CAS Number: 333-93-7

Melting point: 290 °C<sup>1</sup>; 280 °C with decomposition;  
>275 °C<sup>2</sup>

Synonyms: Putrescine dihydrochloride;  
1,4-Butanediamine dihydrochloride;  
tetramethylenediamine dihydrochloride

Putrescine is a biogenic polyamine and precursor of spermidine. It is formed via decarboxylation of ornithine or by decarboxylation of arginine followed by hydrolysis.<sup>2</sup>

Information on the formation and interconversion of putrescine and spermidine in mammalian cells<sup>3</sup> and on the regulation of tRNA methyl transferase activity by putrescine has been published.<sup>4</sup> The alteration of the DNA conformation in rat brain tumor cells by depletion of intracellular putrescine has also been published.<sup>5</sup> A review article on the formation of GABA, the major inhibitory neurotransmitter in vertebrate brains, from putrescine has been published.<sup>6</sup>

#### Precautions and Disclaimer

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

#### Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution.

#### Storage/Stability

Aqueous solutions are stable at 2-8 °C for one month. Frozen aliquots may also be stored.

#### References

1. Dictionary of Organic Compounds, 5th ed., Buckingham, J., ed., Chapman and Hall (New York, NY: 1982), Entry# B-03464.
2. The Merck Index, 12th ed., Entry# 8134.
3. Pegg, A. E., et al., Formation and interconversion of putrescine and spermidine in mammalian cells. *Adv. Enzyme Regul.*, **19**, 427-451 (1980).
4. 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).
5. Hung, D. T., et al., Depletion of intracellular polyamines may alter DNA conformation in 9L rat brain tumor cells. *Science*, **221(4608)**, 368-370 (1983).
6. Seiler, N., On the role of GABA in vertebrate polyamine metabolism. *Physiol. Chem. Phys.*, **12(5)**, 411-429 (1980).

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