

## Product Data Sheet

Product Name: Spermidine-d6

Cat. No.: GC49341

### Chemical Properties

Cas. No. 2514812-10-1

SMILES NCCCCNC([2H])(C([2H])(C([2H])(N[2H])[2H])[2H])[2H]

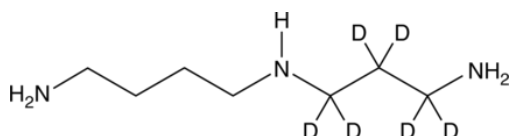
Formula C7H13D6N3 M.Wt 151.3

Solubility Water: 50 mg/ml Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



### Background

Spermidine-d<sub>6</sub> is intended for use as an internal standard for the quantification of spermidine by GC- or LC-MS. Spermidine is an endogenous polyamine.<sup>1</sup> It is formed from putrescine by spermidine synthase. Spermidine (25 μM) inhibits the activity of the human inward-rectifying potassium channel K<sub>ir</sub>2.3 in a patch-clamp assay.<sup>1</sup> It induces autophagy in HeLa cells when used at a concentration of 100 μM and increases the lifespan of *D. melanogaster*, yeast, and *C. elegans*.<sup>2</sup> Spermidine (30 mM in the drinking water) reduces demyelination of the optic nerve and disease severity in a mouse model of experimental autoimmune encephalomyelitis (EAE).<sup>3</sup> It reduces increases in blood pressure, left ventricular posterior wall thickness, and heart weight in salt-sensitive Dahl rats fed a high-salt diet, a model of hypertension-induced congestive heart failure.<sup>4</sup> Formulations containing spermidine have been used as dietary supplements.

1. Madeo, F., Eisenberg, T., Pietrocola, F., et al. Spermidine in health and disease. *Science* 359(6374):eaan2788 (2018).  
2. Eisenberg, T., Knauer, H., Schauer, A., et al. Induction

**Caution: Product has not been fully validated for medical applications. For research use only.**

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of autophagy by spermidine promotes longevityNat. Cell Biol.11(11)1305-1314(2009) 3.Guo, X., Harada, C., Namekata, K., et al.Spermidine alleviates severity of murine experimental autoimmune encephalomyelitisInvest. Ophthalmol. Vis. Sci.52(5)2696-2703(2011) 4.Eisenberg, T., Abdellatif, M., Schroeder, S., et al.Cardioprotection and lifespan extension by the natural polyamine spermidineNat. Med.22(12)1428-1438(2016)

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