

Product Data Sheet

Product Name: Cytarabine-d2

Cat. No.: GC70756

Chemical Properties

Cas. No. 40632-26-6

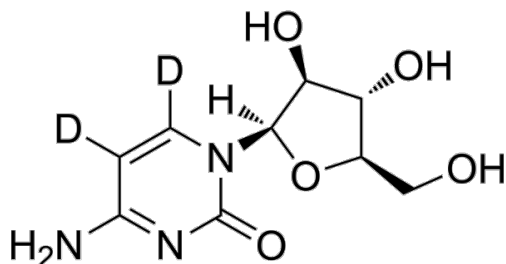
Formula $C_9H_{11}D_2N_3O_5$ M.Wt 245.23

Solubility $H_2O : \geq 50 \text{ mg/mL (203.89 mM)}$ 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

Cytarabine-d2 is the deuterium labeled Cytarabine. Cytarabine, a nucleoside analog, causes S phase cell cycle arrest and inhibits DNA polymerase. Cytarabine inhibits DNA synthesis with an IC_{50} of 16 nM. Cytarabine has antiviral effects against HSV[1][2].

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

References:

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Tobias, S.C. and R.F. Borch, Synthesis and biological evaluation of a cytarabine phosphoramidate prodrug. *Mol Pharm*, 2004. 1(2): p. 112-6.
- [3]. Besirli, C.G., et al. Cytosine arabinoside rapidly activates Bax-dependent apoptosis and a delayed Bax-independent death pathway in sympathetic neurons. *Cell Death Differ*, 2003. 10(9): p. 1045-58.
- [4]. Yamauchi, H., et al., Involvement of p53 in 1-beta-D-arabinofuranosylcytosine-induced trophoblastic cell apoptosis and impaired proliferation in rat placenta. *Biol Reprod*, 2004. 70(6): p. 1762-7.
- [5]. Richel, D.J., et al., Comparison of the antileukaemic activity of 5 aza-2-deoxycytidine and arabinofuranosyl-cytosine in rats with myelocytic leukaemia. *Br J Cancer*, 1988. 58(6): p. 730-3.
- [6]. Shepshelovich D, et al. Pharmacodynamics of cytarabine induced leucopenia: a retrospective cohort study. *Br J Clin Pharmacol*. 2015 Apr;79(4):685-91.
- [7]. Renis HE. Antiviral activity of cytarabine in herpesvirus-infected rats. *Antimicrob Agents Chemother*. 1973 Oct;4(4):439-44.
- [8]. Gruffaz M, Zhou S, Vasan K, et al. Repurposing Cytarabine for Treating Primary Effusion Lymphoma by Targeting Kaposi's Sarcoma-Associated Herpesvirus Latent and Lytic Replications. *mBio*. 2018;9(3):e00756-18. Published 2018 May 8.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA