

Product Data Sheet

Product Name: L-Ascorbic acid-13C6-1

Cat. No.: GC74186

Chemical Properties

Cas. No. 1331939-77-5

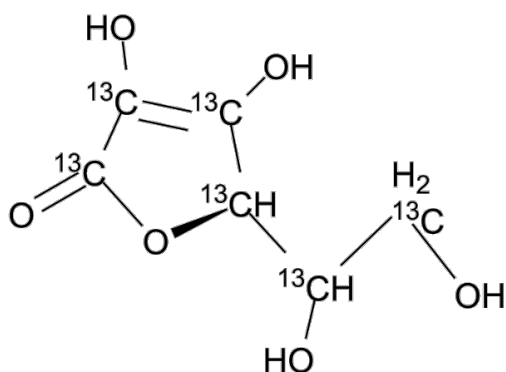
Formula $^{13}\text{C}_6\text{H}_8\text{O}_6$ M.Wt 182.08

Solubility DMSO : 100 mg/mL (549.21 mM; Need ultrasonic and warming) Storage -20°C, protect from light, stored under nitrogen

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

L-Ascorbic acid-13C6-1 (L-Ascorbate-1; Vitamin C-13C6-1) is a ^{13}C labeled L-Ascorbic acid . L-Ascorbic acid (L-Ascorbate), an electron donor, is an endogenous antioxidant agent. L-Ascorbic acid inhibits selectively Cav3.2 channels with an IC50 of 6.5 μM . L-Ascorbic acid is also a collagen deposition enhancer and an elastogenesis inhibitor. L-Ascorbic acid exhibits anti-cancer effects through the generation of reactive oxygen species (ROS) and selective damage to cancer cells.

Stable heavy isotopes of drogen, carbon, and other elements have been incorporated into drug

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

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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].

References:

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-246.
- [2]. Sebastian J Padayatty, et al. Vitamin C as an antioxidant: evaluation of its role in disease prevention. *J Am Coll Nutr*. 2003 Feb;22(1):18-35.
- [3]. Sungrae Cho, et al. Hormetic dose response to L-ascorbic acid as an anti-cancer drug in colorectal cancer cell lines according to SVCT-2 expression. *Sci Rep*. 2018 Jul 27;8(1):11372.
- [4]. Satyanarayana Sreemantula, et al. Influence of antioxidant (L- ascorbic acid) on tolbutamide induced poglycaemia/antiperglycaemia in normal and diabetic rats. *BMC Endocr Disord*. 2005 Mar 3;5(1):2.
- [5]. Michael T Nelson, et al. Molecular mechanisms of subtype-specific inhibition of neuronal T-type calcium channels by ascorbate. *J Neurosci*. 2007 Nov 14;27(46):12577-83.
- [6]. Aleksander Hinek, et al. Sodium L-ascorbate enhances elastic fibers deposition by fibroblasts from normal and pathologic human skin. *J Dermatol Sci*. 2014 Sep;75(3):173-82.

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