
Product Data Sheet

Product Name: L- α -Hydroxyglutaric acid disodium salt

Cat. No.: GC11149

Chemical Properties

Cas. No. 63512-50-5

Chemical Name sodium (S)-2-hydroxypentanedioate

SMILES O=C([O-])[C@@H](O)CCC([O-])=O.[Na+].[Na+]

Formula $C_5H_6Na_2O_5$ M.Wt 192.08

Solubility $\geq 19.2\text{mg/mL}$ in Water Storage Store at -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

IC50: N/A

L- α -Hydroxyglutaric acid disodium salt is a salt form of L- α -Hydroxyglutaric acid. L- α -Hydroxyglutaric acid accumulates as a result of a rare defect in L-2-HG dehydrogenase, resulting in the metabolic disorder L- α -hydroxyglutaric aciduria.

In vitro: It has been reported that L- α -Hydroxyglutaric acid disodium salt could be used as the collection buffer for increasing the recovery of hypoxia-inducible factor-1 α , which was a marker of hypoxia in human tumors [1]. In another previous study, L- α -Hydroxyglutaric acid disodium salt was also used in the radiolabeled conversion assay to evaluate its effect on the TET family of methyl hydroxylases [2].

In vivo: In the 30-day-old rats, L- α -Hydroxyglutaric acid was found to be able to significantly increase chemiluminescence, PCF and TBA-RS measurements and decrease the TAR values in cerebellum markedly. In addition, the L- α -Hydroxyglutaric acid-

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

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

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induced increase of TBA-RS was significantly attenuated by melatonin and also by the combinations of ascorbic acid and soluble alpha-tocopherol (Trolox) and of superoxide dismutase plus catalase but not by the inhibitor of nitric oxide synthase Nomega-nitro-L-arginine methyl ester (L-NAME), , superoxide dismutase or creatine or catalase alone in either cerebral structure [3].

Clinical trial: Up to now, L-a-Hydroxyglutaric acid disodium salt is still in the preclinical development stage.

References:

- [1] Park SR, Kinders RJ, Khin S, et al. Validation of a hypoxia-inducible factor-1 alpha specimen collection procedure and quantitative enzyme-linked immunosorbent assay in solid tumor tissues. *Anal Biochem.* 2014 Aug 15; 459:1-11.
- [2] Evans B, Griner E. Registered report: Oncometabolite 2-hydroxyglutarate is a competitive inhibitor of α -ketoglutarate-dependent dioxygenases. *Elife.* 2015 Jul 31; 4:e07420.
- [3] Latini A, Scussiato K, Rosa RB, Leipnitz G, Llesuy S, Belló-Klein A, Dutra-Filho CS, Wajner M. Induction of oxidative stress by L-2-hydroxyglutaric acid in rat brain. *J Neurosci Res.* 2003 Oct 1; 74(1):103-10.

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