

## L-2-Hydroxyglutaric acid

## Chemical Properties

CAS No. : 13095-48-2

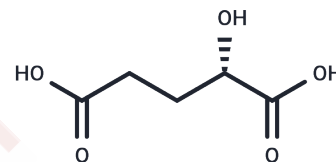
Formula: C<sub>5</sub>H<sub>8</sub>O<sub>5</sub>

Molecular Weight: 148.11

Store at low temperature

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	L-2-Hydroxyglutaric acid (L-2-HG) is a compartmentalized metabolite and a substrate for L-2-hydroxyglutarate dehydrogenase (L2HGDH). It inhibits histone demethylases and increases the expression of ATF4 and its target genes by activating the mTOR pathway. L-2-Hydroxyglutaric acid mediates the mTOR-ATF4 signaling pathway and can be used in biosensor research.
Targets(IC50)	Histone Demethylase, Mitochondrial Metabolism, Endogenous Metabolite
In vitro	L-2-Hydroxyglutaric acid exhibits potent inhibition of 2-oxoglutarate (2-OG)-dependent dioxygenases (2OGDs), including Ten Eleven Translocation (TET) enzymes. [1] L-2-Hydroxyglutaric acid was able to effectively inhibit mitochondrial creatine kinase (Mi-CK) activity with a Km value of 2.52 mM and a Ki value of 11.13 mM. [2]

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.7517 mL	33.7587 mL	67.5174 mL
5 mM	1.3503 mL	6.7517 mL	13.5035 mL
10 mM	0.6752 mL	3.3759 mL	6.7517 mL
50 mM	0.135 mL	0.6752 mL	1.3503 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Shim EH, et al. L-2-Hydroxyglutarate: an epigenetic modifier and putative oncometabolite in renal cancer. *Cancer Discov.* 2014 Nov;4(11):1290-8.

da Silva CG, et al. L-2-hydroxyglutaric acid inhibits mitochondrial creatine kinase activity from cerebellum of developing rats. *Int J Dev Neurosci.* 2003 Jun;21(4):217-24.

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