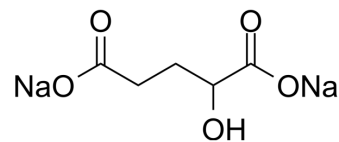


α -Hydroxyglutaric acid disodium

Cat. No.:	HY-113038A
CAS No.:	40951-21-1
Molecular Formula:	C ₅ H ₆ Na ₂ O ₅
Molecular Weight:	192.08
Target:	Histone Demethylase; Endogenous Metabolite
Pathway:	Epigenetics; Metabolic Enzyme/Protease
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 125 mg/mL (650.77 mM; ultrasonic and warming and heat to 60°C)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	5.2062 mL	26.0308 mL	52.0616 mL
5 mM	1.0412 mL	5.2062 mL	10.4123 mL
10 mM	0.5206 mL	2.6031 mL	5.2062 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

α -Hydroxyglutaric acid (2-Hydroxyglutarate) disodium is an α -hydroxy acid form of glutaric acid. α -Hydroxyglutaric acid disodium is a competitive inhibitor of multiple α -ketoglutarate-dependent dioxygenases, including histone demethylases and the TET family of 5-methylcytosine (5mC) hydroxylases^[1].

IC₅₀ & Target

Microbial Metabolite Human Endogenous Metabolite

In Vitro

Isocitrate Dehydrogenase 1 (IDH1) and IDH2 mutations occur frequently in gliomas and acute myeloid leukemia, leading to simultaneous loss and gain of activities in the production of α -ketoglutarate (α -KG) and α -Hydroxyglutaric acid (2-Hydroxyglutarate) disodium, respectively^[1].

α -Hydroxyglutaric acid (2-Hydroxyglutarate) disodium inhibits the activity of multiple histone demethylases. α -Hydroxyglutaric acid occupies the same space as α -KG does in the active site of histone demethylases. α -Hydroxyglutaric acid (2-Hydroxyglutarate) disodium inhibits the activity of TET 5-methylcytosine hydroxylases^[1].

Treatment of U-87MG cells with α -Hydroxyglutaric acid (2-Hydroxyglutarate; 10-50 mM) disodium increases HIF-1 α and decreases endostatin^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wei Xu, et al. Oncometabolite 2-hydroxyglutarate is a competitive inhibitor of α -ketoglutarate-dependent dioxygenases. *Cancer Cell*. 2011 Jan 18;19(1):17-30.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA