

2-Ketoglutaric acid

Chemical Properties

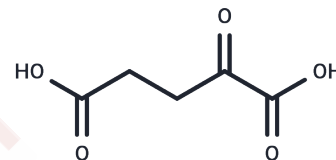
CAS No. : 328-50-7

Formula: C₅H₆O₅

Molecular Weight: 146.10

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	2-Ketoglutaric acid is a reversible inhibitor of tyrosinase (IC ₅₀ =15 mM). 2-Ketoglutaric acid is an intermediate of the Krebs cycle and can produce either ATP or GTP. 2-Ketoglutaric acid also acts as a major carbon backbone for the nitrogen assimilation reaction.
Targets(IC ₅₀)	Endogenous Metabolite,Tyrosinase

Solubility Information

Solubility	DMSO: 480.00 mg/mL (3285.42 mM),Sonication is recommended. H ₂ O: 100 mg/mL (684.46 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	PBS: 100.00 mg/mL (684.46 mM) 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5.00 mg/mL (34.22 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.8446 mL	34.2231 mL	68.4463 mL
5 mM	1.3689 mL	6.8446 mL	13.6893 mL
10 mM	0.6845 mL	3.4223 mL	6.8446 mL
50 mM	0.1369 mL	0.6845 mL	1.3689 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

Rocchiccioli F , Leroux J P , Cartier P H . Microdetermination of 2-ketoglutaric acid in plasma and cerebrospinal fluid by capillary gas chromatography mass spectrometry; application to pediatrics[J]. Biomedical Mass Spectrometry, 1984, 11(1):24-28.

Liu W, Liu X, Liu M, et al. Oxyglutamate Carrier Alleviates Cerebral Ischaemia-Reperfusion Injury by Regulating Mitochondrial Function. European Journal of Neuroscience. 2025, 61(1): e16659.

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