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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Glutaric acid

Cat. No.: HY-W008820

CAS No.: 110-94-1

Molecular Formula: $C_5H_8O_4$

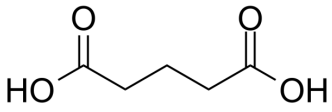
Molecular Weight: 132.12

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (946.11 mM; Need ultrasonic)

H_2O : ≥ 100 mg/mL (756.89 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.5689 mL	37.8444 mL	75.6888 mL
5 mM	1.5138 mL	7.5689 mL	15.1378 mL
10 mM	0.7569 mL	3.7844 mL	7.5689 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (15.74 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (15.74 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (15.74 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Glutaric acid, C5 dicarboxylic acid, is an intermediate during the catabolic pathways of lysine and tryptophan. Glutaric acid affects pericyte contractility and migration. Glutaric acid is an indicator of glutaric aciduria type I[1][2][3].

IC_{50} & Target	Microbial Metabolite	Human Endogenous Metabolite

In Vitro	Glutaric acid (GA) at concentrations of 1 and 2 mM is able to reduce TRAP measurement by up to 28% in a dose-dependent manner (β=0.77; P<0.001). Furthermore, a significantly inverse correlation is also verified between chemiluminescence and TRAP (β=0.81; P<0.001). Glutaric acid does not alter the activities of Cat and SOD, but strongly inhibits (up to 46%) the activity of GPx even at the lower concentration used (0.5 mM). It is observed that the metabolite inhibits this activity in a dose-dependent manner at concentrations as low as 0.05 mM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Yang SY, et, al. Production of glutaric acid from 5-aminovaleric acid by robust whole-cell immobilized with polyvinyl alcohol and polyethylene glycol. Enzyme Microb Technol. 2019 Sep;128:72-78.

[2]. Boy N, et, al. Proposed recommendations for diagnosing and managing individuals with glutaric aciduria type I: second revision. J Inherit Metab Dis. 2017 Jan;40(1):75-101.

[3]. Isasi E, et, al. Glutaric Acid Affects Pericyte Contractility and Migration: Possible Implications for GA-I Pathogenesis. Mol Neurobiol. 2019 Nov;56(11):7694-7707.

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