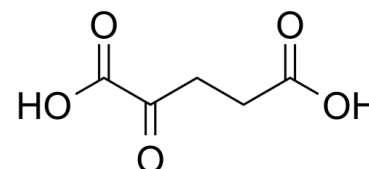


Data Sheet

Product Name:	2-Ketoglutaric acid
Cat. No.:	CS-W014352
CAS No.:	328-50-7
Molecular Formula:	C ₅ H ₆ O ₅
Molecular Weight:	146.10
Target:	Endogenous Metabolite; Tyrosinase
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 250 mg/mL (1711.16 mM; Need ultrasonic); H ₂ O : 50 mg/mL (342.23 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

2-Ketoglutaric acid (Alpha-Ketoglutaric acid) is an intermediate in the production of ATP or GTP in the Krebs cycle. 2-Ketoglutaric acid also acts as the major carbon skeleton for nitrogen-assimilatory reactions. 2-Ketoglutaric acid is a reversible inhibitor of **tyrosinase** (IC₅₀=15 mM)^[1]. **In Vitro:** 2-Ketoglutaric acid (Alpha-Ketoglutaric acid) has other physiological capabilities including reduction of ammonia level formed in the lung and general ammonia detoxification, protective role against lipid peroxidation and neuroprotective effect against cyanide poisoning^[1].

2-Ketoglutaric acid acts as precursor for the synthesis of amino acids and nucleotides^[2].

References:

[1]. Huergo LF, et al. The Emergence of 2-Oxoglutarate as a Master Regulator Metabolite. *Microbiol Mol Biol Rev.* 2015 Dec;79(4):419-35.

[2]. Gou L, et al. The effect of alpha-ketoglutaric acid on tyrosinase activity and conformation: Kinetics and molecular dynamics simulation study. *Int J Biol Macromol.* 2017 Dec;105(Pt 3):1654-1662.

CAIndexNames:

Pentanedioic acid,2-oxo-

SMILES:

OC(=O)CCC(=O)C(=O)O

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

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