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Produktinformation

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

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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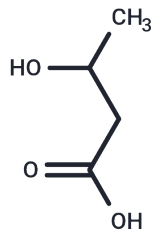
Data Sheet (Cat.No.T4947)

TargetMol

3-Hydroxybutyric acid

Chemical Properties



CAS No. :	300-85-6
Formula:	C4H8O3
Molecular Weight:	104.1
Appearance:	no data available
Storage:	store at low temperature Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	3-Hydroxybutyric acid (Butanoic acid) (or beta-hydroxybutyrate) is a ketone body. Like the other ketone bodies (acetoacetate and acetone), levels of 3-hydroxybutyrate in blood and urine are raised in ketosis. In humans, 3-hydroxybutyrate is synthesized in the liver from acetyl-CoA and can be used as an energy source by the brain when blood glucose is low. Blood levels of 3-hydroxybutyric acid levels may be monitored in diabetic patients to look for diabetic ketoacidosis. Persistent mild hyperketonemia is a common finding in newborns. Ketone bodies serve as an indispensable source of energy for extrahepatic tissues, especially the brain and lung of developing mammals. Another important function of ketone bodies is to provide acetoacetyl-CoA and acetyl-CoA for the synthesis of cholesterol, fatty acids, and complex lipids. During the early postnatal period, acetoacetate (AcAc) and beta-hydroxybutyrate are preferred over glucose as substrates for synthesis of phospholipids and sphingolipids in accord with requirements for brain growth and myelination. Thus, during the first 2 weeks of postnatal development, when the accumulation of cholesterol and phospholipids accelerates, the proportion of ketone bodies incorporated into these lipids increases. On the other hand, an increased proportion of ketone bodies is utilized for cerebroside synthesis during the period of active myelination. In the lung, AcAc serves better than glucose as a precursor for the synthesis of lung phospholipids. The synthesized lipids, particularly dipalmitoylphosphatidylcholine, are incorporated into surfactant, and thus have a potential role in supplying adequate surfactant lipids to maintain lung function during the early days of life (PMID: 3884391). 3-Hydroxybutyric acid is found to be associated with fumarase deficiency and medium-chain acyl-CoA dehydrogenase deficiency, which are inborn errors of metabolism.
Targets(IC50)	Endogenous Metabolite

Solubility Information

Solubility	H2O: 200 mg/mL (1.92 M) DMSO: 55 mg/mL (528.34 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	9.6061 mL	48.0307 mL	96.0615 mL
5 mM	1.9212 mL	9.6061 mL	19.2123 mL
10 mM	0.9606 mL	4.8031 mL	9.6061 mL
50 mM	0.1921 mL	0.9606 mL	1.9212 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.

Reference

Hsu TT, et al. 3-Hydroxybutyric acid interacts with lipid monolayers at concentrations that impair consciousness. Langmuir. 2013 Feb 12;29(6):1948-55.