Data Sheet (Cat.No.T6468)

TargetMol

D-glutamine

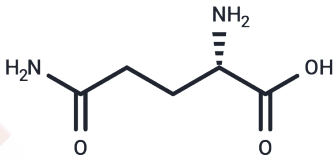
Chemical Properties

CAS No. : 5959-95-5

Formula: C5H10N2O3

Molecular Weight: 146.14

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	D-Glutamine is the D-type stereoisomer of cell-permeable glutamine, one of the 20 amino acids encoded by the standardized genetic code.
Targets(IC50)	Mitophagy,Ferroptosis,Endogenous Metabolite,GluR,Autophagy
In vitro	In catabolic states of injury and illness, glutamine becomes conditionally-essential (requiring intake from food or supplements). Glutamine is the most abundant naturally occurring, non-essential amino acid in the human body and one of the few amino acids that can directly cross the blood-brain barrier. [1] Glutamine is a key pharmaconutrient in the body's response to stress and injury. Glutamine exerts its protective effects via multiple mechanisms, including direct protection of cells and tissue from injury, attenuation inflammation, and preservation of metabolic function. [1]
In vivo	Glutamine shows the greatest benefit when administered at doses greater than 0.35 g/kg/day, with optimal benefit potentially occurring at 0.5 g/kg/day. [2]
Cell Research	Effect of D-Glutamine and glutaminase inhibitor on acetaldehyde-induced permeability. Caco-2 cell monolayers are incubated for 4 h without or with acetaldehyde (600 μM) and L-Glutamine or D-Glutamine (2 mM) in the absence or presence of 6-diazo-5-oxo-L-norleucine (DON). Transepithelial electrical resistance (TER) and FITC-inulin flux are measured. Values are means±SE (n=6)[2].

Solubility Information

Solubility	DMSO: Insoluble, H2O: 10 mM,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.8428 mL	34.2138 mL	68.4275 mL
5 mM	1.3686 mL	6.8428 mL	13.6855 mL
10 mM	0.6843 mL	3.4214 mL	6.8428 mL
50 mM	0.1369 mL	0.6843 mL	1.3686 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

Lee WJ, et al. Am J Physiol, 1998, 274(4 Pt 1), C1101-C1107.
Kim M, et al. World Rev Nutr Diet, 2013, 105, 90-96.