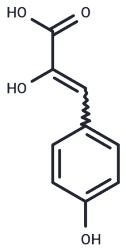
Data Sheet (Cat.No.T4858)

TargetMol

4-Hydroxyphenylpyruvic acid

Chemical Properties



CAS No. : 156-39-8

Formula: C9H8O4

Molecular Weight: 180.16

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	4-Hydroxyphenylpyruvic acid is an enzyme inhibitor.4-Hydroxyphenylpyruvic acid (4-HPPA) is a keto acid that is involved in the tyrosine catabolism pathway. It is a product of the enzyme (R)-4-hydroxyphenyllactate dehydrogenase (EC 1.1.1.222) and is formed during tyrosine metabolism. The conversion from tyrosine to 4-HPPA is catalyzed by tyrosine aminotransferase. Additionally, 4-HPPA can be converted to homogentisic acid which is one of the precursors to ochronotic pigment. The enzyme 4-hydroxyphenylpyruvic acid dioxygenase (HPD) catalyzes the reaction that converts 4-hydroxyphenylpyruvic acid to homogentisic acid. A deficiency in the catalytic activity of HPD is known to lead to tyrosinemia type III, an autosomal recessive disorder characterized by elevated levels of blood tyrosine and massive excretion of tyrosine derivatives into urine. It has been shown that hawkinsinuria, an autosomal dominant disorder characterized by the excretion of 'hawkinsin,' may also be a result of HPD deficiency . Moreover, 4-hydroxyphenylpyruvic acid is also found to be associated in phenylketonuria, which is also an inborn error of metabolism. There are two isomers of HPPA, specifically 4HPPA and 3HPPA, of which 4HPPA is the most common.
Targets(IC50)	Endogenous Metabolite

Solubility Information

Solubility	DMSO: 125 mg/mL (693.83 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (11.1 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (55.51 mM),Solution. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.5506 mL	27.7531 mL	55.5062 mL
5 mM	1.1101 mL	5.5506 mL	11.1012 mL
10 mM	0.5551 mL	2.7753 mL	5.5506 mL
50 mM	0.111 mL	0.5551 mL	1.1101 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

Tomoeda K , Awata H , Matsuura T , et al. Mutations in the 4-hydroxyphenylpyruvic acid dioxygenase gene are responsible for tyrosinemia type III and hawkinsinuria.[J]. Molecular Genetics & Metabolism, 2000, 71(3):506-510.
Guneral F , , Bachmann C , . Age-related reference values for urinary organic acids in a healthy Turkish pediatric population[J]. Clinical Chemistry, 1994, 40(6):862-6.

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