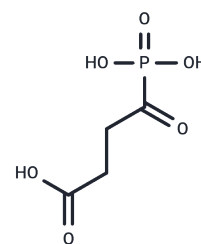


Succinyl phosphonate

Chemical Properties

CAS No. :	26647-82-5
Formula:	C ₄ H ₇ O ₆ P
Molecular Weight:	182.07
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Succinyl phosphonate is a α -ketoglutarate dehydrogenase inhibitor .
Targets(IC50)	Others
In vitro	Succinyl phosphonate(0.01 mM) completely inhibits isolated brain KGDHC even in the presence of a 200-fold higher concentration of its substrate. In cultured human fibroblasts, 0.01 mM succinyl phosphonate produced 70% inhibition of α -ketoglutarate dehydrogenase complex. DESP and TESP are also inhibitory in the cell system, but only after preincubation, suggesting the release of their charged groups by cellular esterases[2]. Succinyl phosphonate inhibits 2-Oxoglutarate dehydrogenase , the first rate-limiting component of the mitochondrial multi-enzyme complex of oxidative decarboxylation of 2-oxoglutarate, in a highly selective and efficient manner[3].

Solubility Information

Solubility	H ₂ O: 50 mg/mL (274.62 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.4924 mL	27.462 mL	54.9239 mL
5 mM	1.0985 mL	5.4924 mL	10.9848 mL
10 mM	0.5492 mL	2.7462 mL	5.4924 mL
50 mM	0.1098 mL	0.5492 mL	1.0985 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

Biryukov AI, et al. Succinyl phosphonate inhibits alpha-ketoglutarate oxidative decarboxylation, catalyzed by alpha-ketoglutarate dehydrogenase complexes from E. coli and pigeon breast muscle. FEBS Lett. 1996 Mar 11;382

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