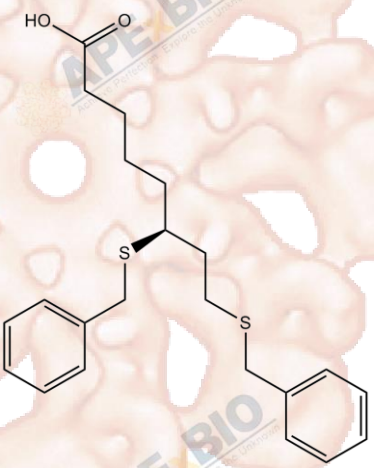
Product Data Sheet

CPI-613



Cat. No.: A4333

CAS No.: 95809-78-2

Formula: C22H28O2S2

M.Wt: 388.59

Synonyms:

Target: Metabolism

Pathway: Dehydrogenase

Storage: Store at -20°C

Solvent & Solubility

In Vitro

insoluble in H2O; ⩾19.45 mg/mL in DMSO; ⩾93.2 mg/mL in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.5734 mL	12.8670 mL	25.7341 mL
5 mM	0.5147 mL	2.5734 mL	5.1468 mL
10 mM	0.2573 mL	1.2867 mL	2.5734 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	PDH/α-KGDH inhibitor
IC_{50} & Target	α -KDH (PDH)

In Vitro

Cell Viability Assay

Cell Line:	NCI-H460 NSCLC human tumor cells
Preparation method:	The solubility of this compound in DMSO is >19.5mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	50-300 μM
	Applications:	In series of tumor cell lines, CPI-613 efficiently killed tumor cells. In H460 human lung cancer cells cultured in medium containing pyruvate and glutamine, CPI-613 significantly reduced ATP levels within less than 60 min and this reduction was initially reversible. After longer treatment times, cells become irreversibly to execute cell death. CPI-613 differentially inhibited PDH activity in normal and tumor cells.
In Vivo	**Animal experiment**	
	Animal models:	nude mouse human tumor xenograft model of a pancreatic tumor cell (BxPC-3) and a non-small cell lung tumor cell (H460)
	Dosage form:	25 mg/kg; once weekly; four treatments at 7-day intervals; intraperitoneal injection.10 mg/kg; once weekly, three times weekly, or five times weekly; intraperitoneal injection.
	Applications:	In human pancreatic (BxPC-3) xenograft carrying nude mouse, CPI-613 significantly inhibited tumor growth and over 40% of treated animals survived until the experiment was terminated at over 8 months (259 days). CPI-613 (10 mg/kg) also inhibited the growth of H460 human non-small cell lung carcinoma and the maximum tolerated dose was ca.100 mg/kg.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Li A, Liu Q, et al. "Berberine Reduces Pyruvate-driven Hepatic Glucose Production by Limiting Mitochondrial Import of Pyruvate through Mitochondrial Pyruvate Carrier 1." EBioMedicine. 2018 Aug;34:243-255.PMID:30093307

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References

[1] Zachar Z, Marecek J, Maturo C, et al. Non-redox-active lipoatederivates disrupt cancer cell mitochondrial metabolism and are potent anticancer agents in vivo. Journal of molecular medicine, 2011, 89(11): 1137-1148.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage

temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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