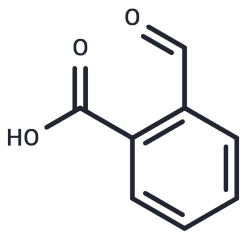
Data Sheet (Cat.No.TN6514)

TargetMol

2-Carboxybenzaldehyde

Chemical Properties



CAS No. : 119-67-5

Formula: C8H6O3

Molecular Weight: 150.13

Storage: Keep away from direct sunlight,Keep away from moisture
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	2-Carboxybenzaldehyde is a key intermediate metabolite in the biodegradation of polycyclic aromatic hydrocarbons such as fluoranthene and phenanthrene. It is produced during the degradation of fluoranthene by Pasteurella sp. IFA and Mycobacterium sp. PYR-1, and phenanthrene by Pseudomonas sp. PPD.
Targets(IC50)	Antibacterial,Drug Metabolite
In vitro	1. A rat liver cytosol enzyme, tentatively named CBA reductase, catalyses the conversion of 2-Carboxybenzaldehyde (CBA) to 2-hydroxymethyl benzoic acid in the presence of NADH (or NADPH). CBA reductase is useful for exploring the mechanism of in vitro enzyme induction, as the enzyme can be induced by phenobarbital (PB) both in vivo and in vitro. METHODS AND RESULTS:2. Possible involvement of glutathione (GSH) in gene expression was suggested by a recent study with cultured rat hepatocytes. 3. CBA reductase was purified about 200-fold by a combination of column chromatography and isoelectric focusing in the presence of mercaptoethanol. 4. The ability to form 2-hydroxymethyl benzoic acid was lost when the enzyme was chromatographed on a hydroxylapatite column in the absence of mercaptoethanol; however, it was restored if sulphydryl compounds or bovine serum albumin was added to the eluate from the column. 5. Gel filtration showed the molecular sizes of CBA reductase from the 105,000g supernatant fraction of rat liver extracts and the purified preparation were 64 kDa and 49 kDa, respectively. CONCLUSIONS:6. The results suggest that sulphydryl substances and some proteins play important roles in preserving the molecular and catalytic properties of CBA reductase.

Solubility Information

Solubility	DMSO: 80 mg/mL (532.87 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.6609 mL	33.3045 mL	66.6089 mL
5 mM	1.3322 mL	6.6609 mL	13.3218 mL
10 mM	0.6661 mL	3.3304 mL	6.6609 mL
50 mM	0.1332 mL	0.6661 mL	1.3322 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

Dan Ji, et al. Characterization and genomic function analysis of phenanthrene-degrading bacterium Pseudomonas sp. Lphe-2. J Environ Sci Health A Tox Hazard Subst Environ Eng. 2020;55(5):549-562.