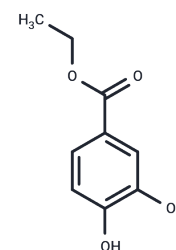


Ethyl 3,4-dihydroxybenzoate

Chemical Properties

CAS No. :	3943-89-3
Formula:	C ₉ H ₁₀ O ₄
Molecular Weight:	182.17
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Ethyl 3,4-dihydroxybenzoate (EDHB): a prolyl hydroxylase inhibitor attenuates acute hypobaric hypoxia mediated vascular leakage in brain.
Targets(IC50)	Apoptosis, Reactive Oxygen Species, HIF/HIF Prolyl-Hydroxylase, NO Synthase, Autophagy, ROS
In vitro	It is shown that DHB reversibly inhibits both morphological and biochemical differentiation of myoblasts, if it is added to the culture medium before the cell alignment stage. Along with the inhibition of procollagen synthesis, DHB also decreases markedly the production of a collagen-binding glycoprotein (gp46) present in the ER[1].
In vivo	EDHB supplementation effectively scaled down HH induced cerebral edema with concomitant downregulation of brain NF-κB expression. There was significant curtailment of pro-inflammatory cytokines and cell adhesion molecules. There was significant downregulation of permeability factor VEGF by EDHB with concomitant increment in hypoxia inducible factor (HIF1α) and anti-inflammatory proteins HO-1 and MT-1 compared to HH control thus accentuating the potential of EDHB as effective hypoxic preconditioning agent in ameliorating HH mediated injury in brain[2].
Animal Research	Male Sprague-Dawley rats treated with EDHB (75 mg/kg for 3 days), were subjected to acute HH exposure at 9144 m (30,000 ft) for 5 h. Animals were assessed for transvascular leakage and edema formation in brain and role of key inflammatory markers along with hypoxia responsive genes.

Solubility Information

Solubility	DMSO: 250 mg/mL (1372.34 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (54.89 mM), Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (10.98 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.4894 mL	27.4469 mL	54.8938 mL
5 mM	1.0979 mL	5.4894 mL	10.9788 mL
10 mM	0.5489 mL	2.7447 mL	5.4894 mL
50 mM	0.1098 mL	0.5489 mL	1.0979 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

Nandan D , Clarke E P , Ball E H , et al. Ethyl-3,4-dihydroxybenzoate inhibits myoblast differentiation: Evidence for an essential role of collagen[J]. The Journal of Cell Biology, 1990, 110(5):1673-1679.

Singh D P , Nimker C , Paliwal P , et al. Ethyl 3,4-dihydroxybenzoate (EDHB): a prolyl hydroxylase inhibitor attenuates acute hypobaric hypoxia mediated vascular leakage in brain[J]. The Journal of Physiological Sciences, 2016, 66(4):315-326.

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