Product Data Sheet

Product Name: Dehydroascorbic acid
Cat. No.: GC33746

Chemical Properties

Cas. No.	490-83-5		
SMILES	OC[C@@H]([C@](O1)([H])C(C(C1=O)=O)=O)O		
Formula	$C_6H_6O_6$	M.Wt	174.11
Solubility	DMSO: 10 mg/ml,DMSO:PBS (pH 7.2) (1:5): 0.16 mg/ml	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Dehydroascorbic acid		

Background

Dehydroascorbic acid is an oxidized form of ascorbic acid .[1] It is obtained through the diet or formed *via* oxidation of ascorbic acid in the gut and can also be reduced back to ascorbic acid in various cell types. Dehydroascorbic acid (0.5 and 1 mM) inhibits hydrogen peroxide-induced cell death in murine astrocytes by approximately 74 and 83%, respectively.[2] It also increases glutathione peroxidase (GPX) and glutathione reductase activity and inhibits production of reactive oxygen species (ROS) in hydrogen peroxide-treated astrocytes when used at a concentration of 1 mM. Dehydroascorbic acid (40 and 250 mg/kg) increases cerebral blood flow and reduces infarct volume and mortality in a mouse model of cerebral ischemia-reperfusion injury induced by transient middle cerebral artery occlusion (MCAO) when administered prior to ischemia.[3] It also reduces infarct volume in a permanent MCAO mouse model when administered pre- or post-ischemia at doses of 250 and 500 mg/kg, respectively.

1.Wilson, J.X.The physiological role of dehydroascorbic acidFEBS Lett.527(1-3)5-9(2002)
2.Kim, E.J., Park, Y.G., Baik, E.J., et al.Dehydroascorbic acid prevents oxidative cell death

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through a glutathione pathway in primary astrocytesJ. Neurosci. Res.79(5)670-679(2005) 3.Huang, J., Agus, D.B., Winfree, C.J., et al.Dehydroascorbic acid, a blood-brain barrier transportable form of vitamin C, mediates potent cerebroprotection in experimental strokeProc. Natl. Acad. Sci. USA98(20)11720-11724(2001)

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