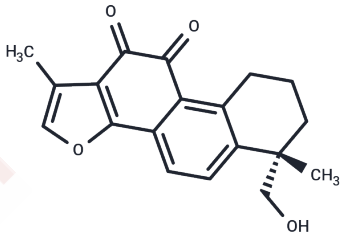
Data Sheet (Cat.No.TN2257)

TargetMol

Tanshinone IIB

Chemical Properties



CAS No. : 17397-93-2

Formula: C19H18O4

Molecular Weight: 310.349

Storage: 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	Co-treatment with Tanshinone IIB (TSB) significantly inhibits the DNA laddering, cytotoxicity and apoptosis of rat cortical neurons induced by staurosporine in a concentration-dependent manner; TSB also suppresses the elevated Bax protein and decreased bcl-2 and caspase-3 proteins induced by staurosporine in rat cortical neurons; TSB is effective in reducing stroke-induced brain damage and may represent a novel drug candidate for further development.
Targets(IC50)	Apoptosis,Bcl-2 Family,Caspase,P-gp
In vitro	The uptake and efflux of Tanshinone IIB in rat primary microvascular endothelial cells (RBMVECs) were ATP-dependent and significantly altered in the presence of a P-glycoprotein (P-gp) or multidrug resistance associated protein (Mrp1/2) inhibitor. A polarized transport of Tanshinone IIB was found in RBMVEC monolayers with facilitated efflux from the abluminal to luminal side. Addition of a P-gp inhibitor (e.g. verapamil) in both abluminal and luminal sides attenuated the polarized transport. In an in situ rat brain perfusion model, Tanshinone IIB crossed the blood-brain barrier (BBB) and blood-cerebrospinal fluid barrier at a greater rate than that for sucrose, and the brain penetration was increased in the presence of a P-gp or Mrp1/2 inhibitor. The brain levels of Tanshinone IIB were only about 30% of that in the plasma and it could be increased to up to 72% of plasma levels when verapamil, quinidine, or probenecid was co-administered in rats. The entry of Tanshinone IIB to CNS increased by 67-97% in rats subjected to middle cerebral artery occlusion or treatment with the neurotoxin, quinolinic acid, compared to normal rats. Furthermore, The brain levels of Tanshinone IIB in mdr1a(-/-) and mrp1(-/-) mice were 28- to 2.6-fold higher than those in the wild-type mice[1]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2222 mL	16.1108 mL	32.2217 mL
5 mM	0.6444 mL	3.2222 mL	6.4443 mL
10 mM	0.3222 mL	1.6111 mL	3.2222 mL
50 mM	0.0644 mL	0.3222 mL	0.6444 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

Involvement of P-glycoprotein and multidrug resistance associated protein 1 in the transport of tanshinone IIB, a primary active diterpenoid quinone from the roots of Salvia miltiorrhiza, across the blood-brain barrier.Drug Metab Lett. 2007 Aug;1(3):205-17.