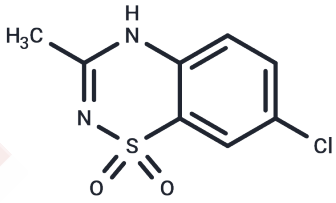
Data Sheet (Cat.No.T0126)

TargetMol

Diazoxide

Chemical Properties



CAS No. : 364-98-7

Formula: C8H7ClN2O2S

Molecular Weight: 230.67

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	Diazoxide (Proglycem) is a benzothiadiazine derivative that is a peripheral vasodilator used for hypertensive emergencies. It lacks diuretic effect, apparently because it lacks a sulfonamide group.
Targets(IC50)	ATPase,Autophagy,Potassium Channel
In vitro	Diazoxide inhibits microglial inflammatory activity. Diazoxide treatment partially inhibits the inflammatory pattern induced by LPS/IFN-γ in microglial cells, inducing a decrease in NO production that could be because of the decreased expression of iNOS detected. Diazoxide has no effect on microglial phagocytosis[1].
In vivo	Diazoxide is beneficial on the improvement in cognitive tasks, reduction of anxiety, decrease in the accumulation of amyloid-beta oligomers and hyperphosphorylation of tau proteins. Diazoxide may also exerts neuroprotective effects independently of K+ channel activation by decreasing neuronal excitability and activation of N-methyl-D-aspartate (NMDA) receptors or by increasing currents trough α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) receptors. Diazoxide-treated animals show a decrease in disease severity a few days after the first clinical signs are observed, corresponding to the acute inflammatory phase of the disease. Daily oral administration of diazoxide in EAE mice during the effector phase of the disease reduces the severity of the clinical signs without any apparent adverse effect. Diazoxide decreases demyelination and axonal loss, reduces tissue damage, inhibits microglial/macrophage and astrocytic activation and preserves neuron integrity. No effects are observed on the number of B and T lymphocytes infiltrating the spinal cord[1].
Cell Research	The phagocytic ability of microglia is determined by the uptake of 2-μm red fluorescent microspheres by BV-2 cells. Cells are treated with diazoxide 100 μM and activated with LPS/IFN-γ and then incubated with microspheres at a concentration of 0.01% for 30 min in the dark at 37°C and 5% CO2. Cells are rinsed twice in PBS solution, pelleted at 1,000 g for 5 min and resuspended in 300 μL PBS. Cells are kept on ice and analyzed by flow cytometry.(Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble),

Solubility	DMSO: 125 mg/mL (541.9 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 (43.35 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (43.35 mM),Solution. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.3352 mL	21.676 mL	43.352 mL
5 mM	0.867 mL	4.3352 mL	8.6704 mL
10 mM	0.4335 mL	2.1676 mL	4.3352 mL
50 mM	0.0867 mL	0.4335 mL	0.867 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

Virgili N, et al. J Neuroinflammation. 2011, 8:149.
Garlid KD, et al. Circ Res. 1997, 81(6):1072-1082.