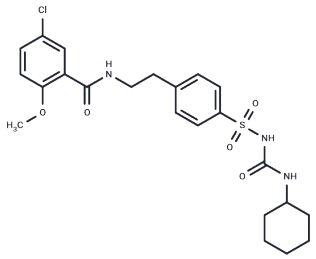
Data Sheet (Cat.No.T1634)

TargetMol
YOUR TARGET MOLECULES

Glibenclamide

Chemical Properties



CAS No. : 10238-21-8

Formula: C23H28ClN3O5S

Molecular Weight: 494

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Glibenclamide (Glyburide) is an antidiabetic sulfonylurea derivative with actions similar to those of chlorpropamide.
Targets(IC50)	Potassium Channel,Mitochondrial Metabolism,CFTR,P-gp,Autophagy
In vitro	Administered intravenously at a dose of 25 mg/kg, Glyburide increased sodium (Na) ion excretion by 350% one hour after treatment, without affecting potassium (K) ion excretion, glomerular filtration rate, mean arterial pressure, or heart rate. In awake rats subjected to a saline load, Glyburide dose-dependently increased urinary sodium excretion, while urinary potassium excretion remained largely unchanged.
In vivo	Glyburide enhances the apparent affinity of scavenger receptor class B type I (SR-BI) for high-density lipoprotein (HDL) binding in insulin-secreting cells. It inhibits SR-BI-mediated selective lipid uptake and efflux, with potency similar to its inhibition of ABCA1 (IC50 approximately 275-300 mM). Regardless of the pre-existing relaxation level, Glyburide can also reverse the relaxation induced by pinacidil. At a concentration of 0.03 mM, Glyburide blocks ATP-modulated potassium channels in insulin-secreting cells. It causes a concentration-dependent increase in the IC50 values for BRL34915 and diazoxide, eliminating the relaxation response to minoxidil sulfate. Doses of Glyburide ranging from 10-500 nM proportionately inhibit the relaxation time brought about by potassium channel openers.

Solubility Information

Solubility	DMSO: 99 mg/mL (200.4 mM), H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0243 mL	10.1215 mL	20.2429 mL
5 mM	0.4049 mL	2.0243 mL	4.0486 mL
10 mM	0.2024 mL	1.0121 mL	2.0243 mL
50 mM	0.0405 mL	0.2024 mL	0.4049 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.

Reference

Winquist RJ, et al. J Pharmacol Exp Ther,1989, 248(1), 149-156.
Juárez-Mercado K E, Prieto-Martínez F D, Sánchez-Cruz N, et al. Expanding the Structural Diversity of DNA