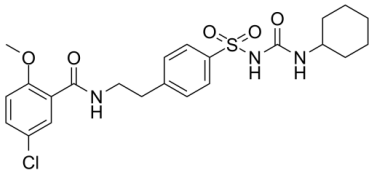
Data Sheet

Product Name:	Glibenclamide
Cat. No.:	CS-1075
CAS No.:	10238-21-8
Molecular Formula:	C23H28ClN3O5S
Molecular Weight:	494.00
Target:	Autophagy; Potassium Channel
Pathway:	Autophagy; Membrane Transporter/Ion Channel
Solubility:	DMSO : ≥ 60 mg/mL (121.46 mM); H2O : < 0.1 mg/mL (insoluble)



BIOLOGICAL ACTIVITY:

Glibenclamide(Glyburide) is a sulfonylurea compound that modulates insulin production. IC50 value: Target: Sulfonylureas bind to ATP-dependent K+ channels in beta cells of the pancreas, depolarizing them and stimulating the release of Ca2+, which in turn stimulates insulin production. Glibenclamide, a sulphonylurea oral hypoglycaemic agent is a widely used antagonist of cromakalim-activated K+ channels in smooth muscle. Binding of Gli to SUR produces the closure of KATP channels and the inhibition of their activity. Glibenclamide is widely used for treatment of type 2-diabetes and it has been signaled as antiproliferative in several tumor cell lines.

References:

[1]. Núnez M, Medina V, Cricco G, et al. Glibenclamide inhibits cell growth by inducing G0/G1 arrest in the human breast cancer cell line MDA-MB-231. BMC Pharmacol Toxicol. 2013 Jan 11;14(1):6.

[2]. Soydan N, Bretzel RG, Fischer B, et al. Reduced capacity of heart rate regulation in response to mild hypoglycemia induced by glibenclamide and physical exercise in type 2 diabetes. Metabolism. 2013 Jan 11. pii: S0026-0495(12)00456-8.

[3]. Sokolovska J, Isajevs S, Sugoka O, et al. Comparison of the Effects of Glibenclamide on Metabolic Parameters, GLUT1 Expression, and Liver Injury in Rats With Severe and Mild Streptozotocin-Induced Diabetes Mellitus. Medicina (Kaunas). 2012;48(10):532-43.

[4]. Gangji AS, Cukierman T, Gerstein HC et al. A systematic review and meta-analysis of hypoglycemia and cardiovascular events: a comparison of glyburide with other secretagogues and with insulin. Diabetes Care. 2007 Feb;30(2):389-94.

CAIndexNames:

Benzamide, 5-chloro-N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-2-methoxy-

SMILES:

ClC1=CC(C(NCCC2=CC=C(S(NC(NC3CCCCC3)=O)(=O)=O)C=C2)=O)=C(OC)C=C1

Caution: Product has not been fully validated for medical applications. For research use only.

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