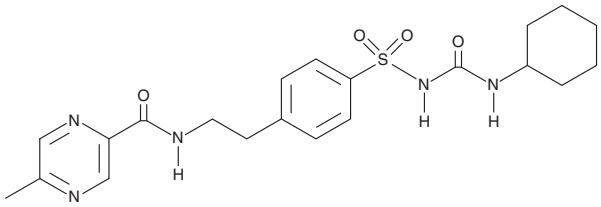
PRODUCT INFORMATION

Glipizide

Item No. 11579

CAS Registry No.:	29094-61-9
Formal Name:	N-[2-[4-[[[(cyclohexylamino) carbonyl]amino]sulfonyl] phenyl]ethyl]-5-methyl-2-pyrazinecarboxamide
Synonyms:	CP 28720, K 4024, TK 1320
MF:	$C_{21}H_{27}N_5O_4S$
FW:	445.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 227, 275 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Glipizide is supplied as a crystalline solid. A stock solution may be made by dissolving the glipizide in the solvent of choice, which should be purged with an inert gas. Glipizide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of glipizide in these solvents is approximately 20 mg/ml.

Glipizide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, glipizide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Glipizide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Glipizide is a hypoglycemic agent.[1] It inhibits ATP-sensitive potassium (K_{ATP}) channels in primary mouse pancreatic β cells (IC_{50} = 6.4 nM). Glipizide induces insulin release from isolated rat pancreatic tissue with an EC_{50} value of 40 nM.[2] Dietary administration of glipizide (5 mg/kg per day for 10 days) increases the number of insulin receptors on isolated and purified mouse liver plasma membranes.[3] It reduces plasma glucose and triglyceride, but not total cholesterol, levels and increases plasma insulin levels in a rat model of diabetes induced by a high-fat diet and streptozotocin (STZ; Item No. 13104) when administered orally at a dose of 5 mg/kg.[4] Formulations containing glipizide have been used in the treatment of type 2 diabetes.

References

1. Zünkler, B.J., Lenzen, S., Männer, K., *et al.* Concentration-dependent effects of tolbutamide, meglitinide, glipizide, glibenclamide and diazoxide on ATP-regulated K^+ currents in pancreatic B-cells. *Naunyn-Schmiedebergs Arch. Pharmacol.* **337(2)**, 225-230 (1998).
2. Herchuelz, A. and Malaisse, W.J. Insulinotropic potency of glipizide in vitro. *Diabetologia* 309-310 (1973).
3. Feinglos, M.N. and Lebovitz, H.E. Sulphonylureas increase the number of insulin receptors. *Nature* **276(5684)**, 184-185 (1978).
4. Srinivasan, K., Viswanad, B., Asrat, L., *et al.* Combination of high-fat diet-fed and low-dose streptozotocin-treated rat: A model for type 2 diabetes and pharmacological screening. *Pharmacol. Res.* **52(4)**, 313-320 (2005).

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