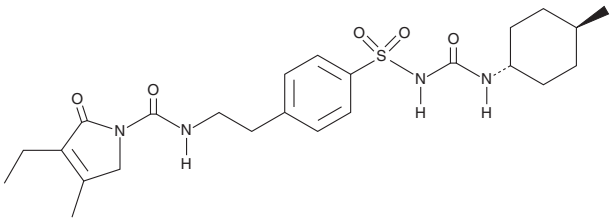
PRODUCT INFORMATION

Glimepiride

Item No. 12090

CAS Registry No.:	93479-97-1
Formal Name:	3-ethyl-2,5-dihydro-4-methyl-N-[2-[4-[[[[(trans-4-methylcyclohexyl)amino]carbonyl]amino]sulfonyl]phenyl]ethyl]-2-oxo-1H-pyrrole-1-carboxamide
Synonym:	HOE 490
MF:	$C_{24}H_{34}N_4O_5S$
FW:	490.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 228 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

Glimepiride is supplied as a crystalline solid. A stock solution may be made by dissolving the glimepiride in the solvent of choice. Glimepiride is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of glimepiride in these solvents is approximately 3 and 10 mg/ml, respectively.

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

Description

Glimepiride is an inhibitor of sulfonylurea receptors (SURs) linked to the inwardly rectifying potassium channel ($K_{ir}6.2$; IC_{50}s = 3, 5.4, and 7.3 nM for SUR1/$K_{ir}6.2$, SUR2A/$K_{ir}6.2$, and SUR2B/$K_{ir}6.2$, respectively, in *Xenopus* oocytes expressing the mouse receptor).[1] It also induces intracellular insulin receptor (InsR) complex dissociation and insulin degradation in HepG2 cells when used at a concentration of 20 µM.[2] Glimepiride (0.05 mg/kg per day) decreases blood glucose and plasma insulin levels in a KKAy mouse model of insulin-resistant type 2 diabetes.[3] It reduces hemoglobin A1c (HbA1c) levels in the same model when administered at a dose of 0.5 mg/kg per day. Formulations containing glimepiride have been used in the treatment of type 2 diabetes mellitus.

References

1. Song, D.K. and Ashcroft, F.M. Glimepiride block of cloned β-cell, cardiac and smooth muscle K_{ATP} channels. *Br. J. Pharmacol.* **133(1),** 193-199 (2001).
2. Hribal, M.L., D'Alfonso, R., Giovannone, B., *et al.* The sulfonylurea glimepiride regulates intracellular routing of the insulin-receptor complexes through their interaction with specific protein kinase C isoforms. *Mol. Pharmacol.* **59(2),** 322-330 (2001).
3. Müller, G., Satoh, Y., and Geisen, K. Extrapancreatic effects of sulfonylureas - a comparison between glimepiride and conventional sulfonylureas. *Diabetes Res. Clin. Pract.* **28(Suppl 1),** S115-S137 (1995).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM