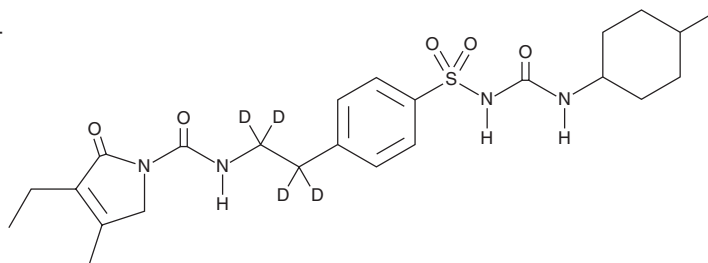


PRODUCT INFORMATION



Glimepiride-d₄ Item No. 27846

CAS Registry No.: 2699607-96-8
Formal Name: 3-ethyl-2,5-dihydro-4-methyl-N-[2-[4-[[[4-methylcyclohexyl]amino]carbonyl]amino]sulfonyl]phenyl]ethyl-1,1,2,2-d₄]-2-oxo-1H-pyrrole-1-carboxamide
MF: C₂₄H₃₀D₄N₄O₅S
FW: 494.6
Chemical Purity: ≥98% (Glimepiride)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A 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-d₄ is intended for use as an internal standard for the quantification of glimepiride (Item No. 12090) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Glimepiride-d₄ is supplied as a solid. A stock solution may be made by dissolving the glimepiride-d₄ in the solvent of choice. Glimepiride-d₄ is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of glimepiride-d₄ in these solvents is approximately 3 and 10 mg/ml, respectively.

Description

Glimepiride is a long-acting sulfonylurea that inhibits ATP-sensitive potassium (K_{ATP}) channels in pancreatic β-cells (IC₅₀ = 3 nM), which leads to the release of insulin.¹ At 20 μM, glimepiride has been shown to increase the activity of intracellular insulin receptors and to prevent insulin receptor downregulation during chronic insulin stimulation through a mechanism involving protein kinase C activation.² It has been reported to be less effective at inhibiting nonpancreatic K_{ATP} channels, and therefore contributes fewer cardiac actions, compared to earlier generations of sulfonylurea anti-type 2 diabetes treatments.³

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. Mocanu, M.M., Maddock, H.L., Baxter, G.F., *et al.* Glimepiride, a novel sulfonylurea, does not abolish myocardial protection afforded by either ischemic preconditioning or diazoxide. *Circulation* **103**(25), 3111-3116 (2001).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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