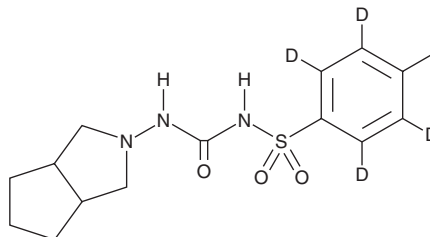


PRODUCT INFORMATION



Gliclazide-d₄ Item No. 33610

CAS Registry No.: 1185039-30-8
Formal Name: N-[[[(hexahydrocyclopenta[c]pyrrol-2(1H)-yl)amino]carbonyl]-4-methylbenzene-2,3,5,6-d₄-sulfonamide
MF: C₁₅H₁₇D₄N₃O₃S
FW: 327.4
Chemical Purity: ≥98% (Gliclazide)
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

Gliclazide-d₄ is intended for use as an internal standard for the quantification of gliclazide (Item No. 25503) 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).

Gliclazide-d₄ is supplied as a solid. A stock solution may be made by dissolving the gliclazide-d₄ in the solvent of choice, which should be purged with an inert gas. Gliclazide-d₄ is soluble in methanol and DMSO.

Description

Gliclazide is a sulfonylurea and an inhibitor of pancreatic β -cell ATP-sensitive potassium (K_{ATP}) channels (IC_{50} = 184 nM for murine β -cells).^{1,2} It is selective for pancreatic β -cell over cardiac and arterial smooth muscle cell K_{ATP} channels (IC_{50} s = 19.5 and 37.9 μ M, respectively).¹ Gliclazide (5 μ M) increases insulin-induced glucose uptake and glucose transporter 4 (GLUT4) translocation to the plasma membrane in a differentiated 3T3L1 adipocyte model of insulin resistance induced by hydrogen peroxide.³ Gliclazide (5 and 10 μ g/ml) reduces LDL oxidation by human aortic smooth muscle cells (HASMCs), decreasing TBARS content and 8-isoprostane levels.⁴ It also decreases oxidized LDL-induced HASMC proliferation and monocyte adhesion when used at concentrations ranging from 1 to 10 μ g/ml. Gliclazide (5 mg/kg) reduces serum glucose levels and increases glucose uptake by isolated rat hindquarters in a model of diabetes induced by streptozotocin (STZ; Item No. 13104).⁵

References

1. Lawrence, C.L., Proks, P., Rodrigo, G.C., *et al.* *Diabetologia* **44**(8), 1019-1025 (2001).
2. Proks, P., Reimann, F., Green, N., *et al.* *Diabetes* **51**(3), S368-S376 (2002).
3. Shimoyama, T., Yamaguchi, S., Takahashi, K., *et al.* *Metabolism* **55**(6), 722-730 (2006).
4. Mamputu, J.C., and Renier, G. *Metabolism* **50**(6), 688-695 (2001).
5. Pulido, N., Suarez, A., Casanova, B., *et al.* *Metabolism* **46**(12 Suppl 1), 10-13 (1997).

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.

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