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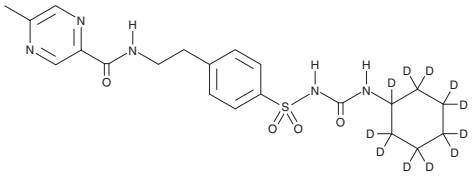
PRODUCT INFORMATION

Glipizide-d_{11}

Item No. 30074

CAS Registry No.: 1189426-07-0
Formal Name: N-[2-[4-[[[(cyclohexyl-1,2,2,3,3,4,4,5,5,6,6-d_{11}-amino)carbonyl]amino]sulfonyl]phenyl]ethyl]-5-methyl-2-pyrazinecarboxamide
Synonyms: CP 28720, K 4024, TK 1320
MF: $C_{21}H_{16}D_{11}N_5O_4S$
FW: 456.6
Chemical Purity: ≥98% (Glipizide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_{11}); ≤1% d_0
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

Glipizide-d_{11} is intended for use as an internal standard for the quantification of glipizide (Item No. 11579) 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).

Glipizide-d_{11} is supplied as a solid. A stock solution may be made by dissolving the glipizide-d_{11} in the solvent of choice, which should be purged with an inert gas. Glipizide-d_{11} is slightly soluble in organic solvents such as DMSO and ethyl acetate.

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. Yao, S.Y.M., Ng, A.M.L., Muzyka, W.R., *et al.* Molecular cloning and functional characterization of nitrobenzylthioinosine (NBMPR)-sensitive (es) and NBMPR-insensitive (ei) equilibrative nucleoside transporter proteins (rENT1 and rENT2) from rat tissues. *J. Biol. Chem.* **272(45)**, 28423-28430 (1997).
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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