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- Trockeneiszuschlag
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- Expressversand

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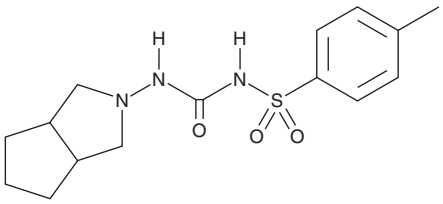
PRODUCT INFORMATION

Gliclazide

Item No. 25503

CAS Registry No.: 21187-98-4
Formal Name: N-[[(hexahydrocyclopenta[c]pyrrol-2(1H)-yl)amino]carbonyl]-4-methyl-benzenesulfonamide
MF: $C_{15}H_{21}N_3O_3S$
FW: 323.4
Purity: ≥98%
UV/Vis.: λ_{max}: 230, 310 nm
Supplied as: A crystalline solid
Storage: 4°C
Stability: ≥2 years



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

Laboratory Procedures

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

Gliclazide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, gliclazide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Gliclazide has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

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 µM, respectively).[1] Gliclazide (5 µM) 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 µg/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 µg/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).

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