

PRODUCT INFORMATION

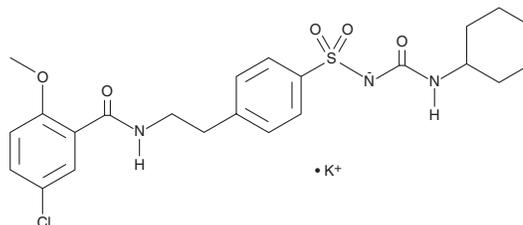


Glyburide (potassium salt)

Item No. 15009

CAS Registry No.: 52169-36-5
Formal Name: 5-chloro-N-[2-[4-[[[(cyclohexylamino) carbonyl]amino]sulfonyl]phenyl]ethyl]-2-methoxy-benzamide, monopotassium salt

Synonym: Glibenclamide
MF: C₂₃H₂₇ClN₃O₅S • K
FW: 532.1
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

Glyburide (potassium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the glyburide (potassium salt) in the solvent of choice, which should be purged with an inert gas. Glyburide (potassium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of glyburide (potassium salt) in these solvents is approximately 10 and 2 mg/ml, respectively.

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

Description

Glyburide is a sulfonylurea and an inhibitor of sulfonylurea receptor 1 (SUR1) linked to ATP-sensitive potassium channel K_{ir}6.2 (IC₅₀ = 4.3 nM).¹ It binds to microsomes derived from RINm5F pancreatic β-cells (K_d = 0.3 nM) and inhibits ⁸⁶Rb⁺ efflux from intact RINm5 cells with a half-maximal inhibition (K_{0.5}) value of 0.06 nM.² Glyburide (5 mg/kg) reduces blood glucose levels and increases the activity of hepatic glutathione-S-transferase (GST) and glucose-6-phosphate dehydrogenase (G6PDH) in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104).³ It inhibits ATP-induced increases in caspase-1 activation and IL-1β and IL-18 secretion in a concentration-dependent manner in LPS-primed bone marrow-derived macrophages (BMDMs).⁴ Glyburide (80 mg/ml) also reduces lesion growth in mice infected with *L. mexicana*.⁵ Formulations containing glyburide have been used in the treatment of type 2 diabetes.

References

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2. Schmid-Antomarchi, H., De Welle, J., Fosset, M., et al. *J. Biol. Chem.* **262**(33), 15840-15844 (1987).
3. Bugdayci, G., Altan, N., Sancak, B., et al. *Acta. Diabetol.* **43**(4), 131-134 (2006).
4. Lamkanfi, M., Mueller, J.L., Vitari, A.C., et al. *J. Cell. Biol.* **187**(1), 61-70 (2009).
5. Serrano-Martín, X., Payares, G., and Mendoza-León, A. *Antimicrob Agents Chemother.* **50**(12), 4214-4216 (2006).

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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