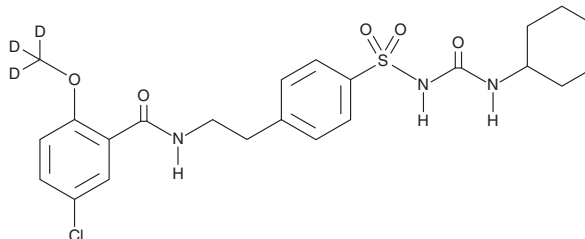


PRODUCT INFORMATION



Glyburide-d₃ Item No. 25740

CAS Registry No.: 1219803-02-7
Formal Name: 5-chloro-N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-2-(methoxy-d₃)-benzamide
Synonym: Glibenclamide-d₃
MF: C₂₃H₂₅ClD₃N₃O₅S
FW: 497.0
Chemical Purity: ≥98% (Glyburide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤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

Glyburide-d₃ is intended for use as an internal standard for the quantification of glyburide (Item No. 15009) 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).

Glyburide-d₃ is supplied as a solid. A stock solution may be made by dissolving the glyburide-d₃ in the solvent of choice. Glyburide-d₃ is soluble in the organic solvent DMSO, which should be purged with an inert gas.

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 Chemo.* **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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