

Product Data Sheet

Product Name: Glyburide-d3

Cat. No.: GC47406

Chemical Properties

Cas. No. 1219803-02-7

SMILES C1C=CC(C(NCCC2=CC=C(S(NC(NC3CCCCC3)=O)(=O)=O)C=C2)=O)=C(OC([2H])([2H])[2H])C=C1

Formula C₂₃H₂₅ClD₃N₃O₅S M.Wt 497

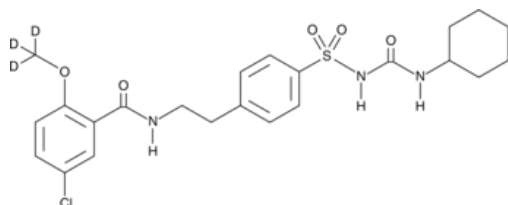
Solubility DMSO : 250 mg/mL (503.00 mM; Need ultrasonic); H₂O : 0.1 mg/mL (0.20 mM; Need ultrasonic and warming)

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Glyburide-d₃ is intended for use as an internal standard for the quantification of glyburide by GC- or LC-MS. 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.³ It inhibits ATP-

Caution: Product has not been fully validated for medical applications. For research use only.

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induced increases in caspase-1 activation and IL-1 β 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.

1.Coghlan, M.J., Carroll, W.A., and Gopalakrishnan, M.Recent developments in the biology and medicinal chemistry of potassium channel modulators: Update from a decade of progressJ. Med. Chem.44(11)1627-1653(2001) 2.Schmid-Antomarchi, H., De Wille, J., Fosset, M., et al.The receptor for antidiabetic sulfonylureas controls the activity of the ATP-modulated K⁺ channel in insulin-secreting cellsThe Journal of Biological Chemistry262(33)15840-15844(1987) 3.Bugdayci, G., Altan, N., Sancak, B., et al.The effect of the sulfonylurea glyburide on glutathione-S-transferase and glucose-6-phosphate dehydrogenase in streptozotocin-induced diabetic rat liverActa. Diabetol.43(4)131-134(2006) 4.Lamkanfi, M., Mueller, J.L., Vitari, A.C., et al.Glyburide inhibits the Cryopyrin/Nalp3 inflammasomeJournal of Cell Biology187(1)61-70(2009) 5.Serrano-Martín, X., Payares, G., and Mendoza-León, A.Glibenclamide, a blocker of K⁺ATP channels, shows antileishmanial activity in experimental murine cutaneous leishmaniasisAntimicrobial Agents and Chemotherapy50(12)4214-4216(2006)

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