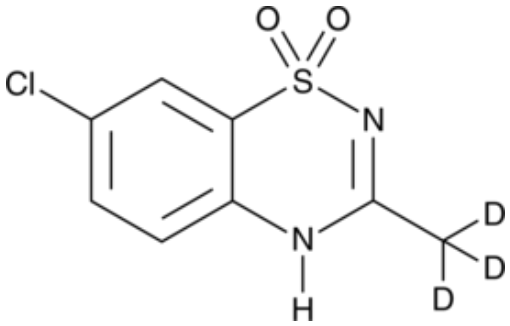
Product Data Sheet

Product Name: Diazoxide-d3
Cat. No.: GC46131

Chemical Properties

Cas. No.	1432063-51-8		
SMILES	ClC1=CC=C(NC(C([2H])([2H])[2H])=NS2(=O)=O)C2=C1		
Formula	C8H4ClD3N2O2S	M.Wt	233.7
Solubility	DMSO: slightly soluble	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

Diazoxide-d3 is intended for use as an internal standard for the quantification of diazoxide by GC- or LC-MS. Diazoxide is an activator of sulfonylurea receptor 1 (SUR1) linked to ATP-sensitive potassium channel Kir6.2 (EC50 = 14.1 μM in a FLIPR assay using HEK293 cells).1 It also activates SUR2A/Kir6.2 and SUR2B/Kir6.2 channels in HEK293T cells in a patch-clamp assay when used at concentrations of 30 and 300 μM.2 Diazoxide inhibits glucose-induced insulin release from isolated rat pancreatic β cells and induces relaxation of isolated rat aortic rings precontracted with potassium chloride (IC50s = 22.6 and 22.4 μM, respectively).3 It reduces mean arterial pressure and cerebral blood flow in spontaneously hypertensive rats when administered intravenously as a 5 mg/kg bolus dose.4 Diazoxide (50 mg/kg, i.p.) increases blood glucose levels in mice.5 Formulations containing diazoxide have been used in the treatment of hypoglycemia.

Caution: Product has not been fully validated for medical applications. For research use only.
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|1. Gopalakrishnan, M., Molinari, E.J., Char-Change, S., et al. Pharmacology of human sulphonylurea receptor SUR1 and inward rectifier K+ channel Kir6.2 combination expressed in HEK-293 cells. Br. J. Pharmacol. 129(7), 1323-1332 (2000).|2. Matsuoka, T., Matsushita, K., Katayama, Y., et al. C-Terminal tails of sulfonylurea receptors control ADP-induced activation and diazoxide modulation of ATP-sensitive K+ channels. Circ. Res. 87(10), 873-880 (2000).|3. de Tullio, P., Becker, B., Boverie, S., et al. Toward tissue-selective pancreatic B-cells KATP channel openers belonging to 3-alkylamino-7-halo-4H-1,2,4-benzothiadiazine 1,1-dioxides. J. Med. Chem. 46(15), 3342-3353 (2003).|4. Barry, D.I., Strandgaard, S., Graham, D.I., et al. Effect of diazoxide-induced hypotension on cerebral blood flow in hypertensive rats. Eur. J. Clin. Invest. 13(3), 201-207 (1983).|5. Foy, J.M., and Furman, B.L. Effect of single dose administration of diuretics on the blood sugar of alloxan-diabetic mice or mice made hyperglycaemic by the acute administration of diazoxide. Br. J. Pharmacol. 47(1), 124-132 (1973).

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