

Product Data Sheet

Product Name: Lidorestat

Cat. No.: GC38810

Chemical Properties

Cas. No. 245116-90-9

SMILES OC(CN1C(C=CC=C2)=C2C(CC3=NC(C(F)=C(F)C=C4F)=C4S3)=C1)=O

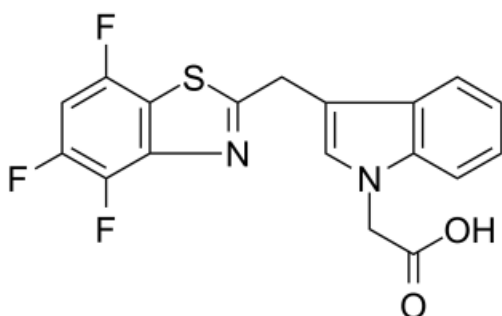
Formula $C_{18}H_{11}F_3N_2O_2S$ M.Wt 376.35

Solubility DMSO: ≥ 250 mg/mL (664.28 mM) 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

Lidorestat (IDD-676) is a potent, selective and orally active aldose reductase inhibitor with an IC_{50} of 5 nM. Lidorestat can be used to treat chronic diabetes complications. Lidorestat also improves nerve conduction and reduces cataract formation[1][2][3].

From in vitro experiments, Lidorestat has a reported IC_{50} against recombinant human aldose reductase (/h/-ALR2) of $5\text{ }\mu\text{M}$. Against recombinant human aldehyde reductase (/h/-ALR1), Lidorestat has a reported IC_{50} of $27,000\text{ }\mu\text{M}$, yielding a selectivity of /h/-ALR1/h/-ALR2 of 5400:1[1][2].

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Lidorestat (25 mg/kg/day; oral administration; twice daily; for 6 weeks; diabetic mice) treatment decreases fructose and reduces mortality in diabetic hAR-expressing mice. And Lidorestat does not affect weight[1]. Animal Model: Diabetic low-density lipoprotein (LDL) receptor-deficient [Ldlr(-/-)] mice[1]

[1]. Noh HL, et al. Regulation of plasma fructose and mortality in mice by the aldose reductase inhibitor lidorestat. J Pharmacol Exp Ther. 2009 Feb;328(2):496-503. [2]. Van Zandt MC, et al. Discovery of 3-[(4,5,7-trifluorobenzothiazol-2-yl)methyl]indole-N-acetic acid (lidorestat) and congeners as highly potent and selective inhibitors of aldose reductase for treatment of chronic diabetic complications. J Med Chem. 2005 May 5;48(9):3141-52. [3]. Maccari R, et al. Identification of new non-carboxylic acid containing inhibitors of aldose reductase. Bioorg Med Chem. 2010 Jun 1;18(11):4049-55.

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