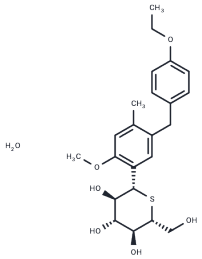
Data Sheet (Cat.No.T38539)

TargetMol

Luseogliflozin hydrate

Chemical Properties



CAS No. : 1152425-66-5

Formula: C23H32O7S

Molecular Weight: 452.56

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Luseogliflozin (TS 071) hydrate, a second-generation sodium-glucose co-transporter 2 (SGLT2) inhibitor, exhibits selective potency and oral activity, with an IC50 of 2.26 nM. This compound is utilized in research for the treatment of type 2 diabetes mellitus (T2DM).
Targets(IC50)	Others,SGLT
In vitro	Luseogliflozin enhances beta cell proliferation by activating the FoxM1/PLK1/CENP-A pathway through signaling molecules that do not depend on the insulin/IGF-1 receptors. This effect is evident in OSI-906-treated mice. Furthermore, a Cell Viability Assay conducted on βIRKO, IRS1KO, and IRS2KO beta cells, with a concentration of 100 nM and incubation times of 24 and 48 hours, demonstrated that serum from OSI-906+Luseogliflozin-treated groups significantly improved cell viability compared to the OSI-906 alone group, including in insulin receptor (IR)-deficient βIRKO beta cells.
In vivo	Administering Luseogliflozin (10 mg/kg/daily via oral gavage) significantly alleviated hyperglycemia, while not affecting hyperinsulinemia, in C57BL/6J male mice aged 8 weeks old exposed to OSI-906 (45 mg/kg). Specifically, Luseogliflozin treatment effectively mitigated the hyperglycemia provoked by OSI-906[2]. This was achieved with a daily dosage of 10 mg/kg, administered orally through gavage for a duration of 7 days between 08:00 and 09:00 hours, demonstrating the compound's therapeutic potential in ameliorating OSI-906-induced hyperglycemia.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2097 mL	11.0483 mL	22.0965 mL
5 mM	0.4419 mL	2.2097 mL	4.4193 mL
10 mM	0.221 mL	1.1048 mL	2.2097 mL
50 mM	0.0442 mL	0.221 mL	0.4419 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Anthony Markham,et al. Luseogliflozin: first global approval. Drugs. 2014 Jun;74(8):945-50.
Jun Shirakawa,et al. Luseogliflozin increases beta cell proliferation through humoral factors that activate an insulin receptor- and IGF-1 receptor-independent pathway. Diabetologia. 2020 Mar;63(3):577-587.