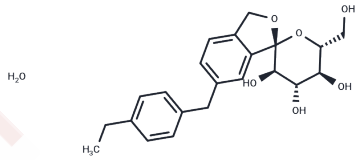
Data Sheet (Cat.No.T5016)

TargetMol

Tofogliflozin (hydrate)

Chemical Properties



CAS No. : 1201913-82-7

Formula: C22H28O7

Molecular Weight: 404.45

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	Tofogliflozin hydrate (CSG-452 hydrate) is a potent and highly specific inhibitor of SGLT2, with an IC50 of 2.9 nM and Ki values of 2.9 nM, 14.9 nM, and 6.4 nM for human, rat, and mouse SGLT2, respectively.
Targets(IC50)	Reactive Oxygen Species,ROS,SGLT
In vitro	Tofogliflozin, a highly selective inhibitor of SGLT2 on oxidative stress generation, inflammatory and proapoptotic reactions in cultured human proximal tubular cells exposed to high glucose.?Tofogliflozin dose-dependently suppressed glucose entry into tubular cells.?High glucose exposure (30 mM) for 4 and 24 h significantly increased oxidative stress generation in tubular cells, which were suppressed by the treatment of tofogliflozin or an antioxidant N-acetylcysteine (NAC).?Monocyte chemoattractant protein-1 (MCP-1) gene expression and apoptotic cell death were induced by 4 h- and 8 day-exposure to high glucose, respectively, both of which were also blocked by tofogliflozin or NAC.?The present study suggests that SGLT2-mediated glucose entry into tubular cells could stimulate oxidative stress and evoke inflammatory and proapoptotic reactions in this cell type.?Blockade of glucose reabsorption in tubular cells by SGLT2 inhibitor might exert beneficial effects on tubulointerstitial damage in diabetic nephropathy[1].

Solubility Information

Solubility	H2O: 0.33 mg/mL (0.82 mM),Sonication is recommended. DMSO: 142.8 mg/mL (353.07 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (8.16 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (24.72 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4725 mL	12.3625 mL	24.7249 mL
5 mM	0.4945 mL	2.4725 mL	4.945 mL
10 mM	0.2472 mL	1.2362 mL	2.4725 mL
50 mM	0.0494 mL	0.2472 mL	0.4945 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

Ishibashi Y, et al. Tofogliflozin, A Highly Selective Inhibitor of SGLT2 Blocks Proinflammatory and Proapoptotic Effects of Glucose Overload on Proximal Tubular Cells Partly by Suppressing Oxidative Stress Generation. Horm Metab Res. 2016 Mar;48(3):191-5.

Suzuki M, et al. Tofogliflozin, a potent and highly specific sodium/glucose cotransporter 2 inhibitor, improves glycemic control in diabetic rats and mice. J Pharmacol Exp Ther. 2012 Jun;341(3):692-701.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481