Chemical Properties

**Product Name:** Dapagliflozin  
**Cas No.:** 461432-26-8  
**M.Wt:** 408.87  
**Formula:** C$_{21}$H$_{25}$ClO$_6$  

**Chemical Name:** (2S,3R,4R,5S,6R)-2-[4-chloro-3-[(4-ethoxyphenyl)methyl]phenyl]-6-(hydroxymethyl)oxane-3,4,5-triol  
**Canonical SMILES:** CCOC1=CC=C(C=C1)CC2=C(C=C2)C3C(C(C(O3)CO)O)O)O)Cl  
**Solubility:** Soluble in DMSO > 10 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.  
**Shopping Condition:** Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Biological Activity

**Targets:** SGLT  
**Pathways:** Metabolism >> SGLT  
**Description:** EC$_{50}$: 1.1±0.06 nM for hSGLT2  
Selective inhibition of SGLT2 has been proposed to aid in the normalization of plasma glucose levels in patients with diabetes by preventing the renal glucose reabsorption process and promoting glucose excretion in urine. Dapagliflozin is a potent, selective Renal Sodium-Dependent Glucose Cotransporter 2 (SGLT2) inhibitor.
In vitro: EC50 values of 1.1 nM for hSGLT2 and 1.4 μM for hSGLT1 determined for Dapagliflozin corresponded to 1200-fold selectivity for SGLT2 as compared with phlorizin’s 10-fold selectivity. Dapagliflozin inhibitory potencies against rat SGLT (rSGLT)2 and hSGLT2 were comparable, but the selectivity of Dapagliflozin for rSGLT2 versus rSGLT1 decreased to 200-fold [1].

In vivo: In vivo, dapagliflozin acutely induced renal glucose excretion in diabetic and normal rats, improved glucose tolerance in normal rats, as well as reduced hyperglycemia in Zucker diabetic fatty rats after single oral doses ranging between 0.1 and 1.0 mg/kg [2].

Clinical trial: Dapagliflozin dosing at 1, 2.5 and 5 mg/day is effective in reducing glycaemic levels and body weight in treatment-naive patients with type 2 diabetes. Dapagliflozin was well tolerated [3].

Reference:

Product Validation

Treatment of Dapagliflozin lowered plasma glucose level

Treatment of Dapagliflozin increased urine volume and urinary glucose excretion

Caution
Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.