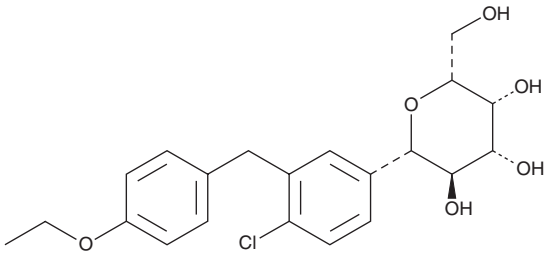
PRODUCT INFORMATION

galacto-Dapagliflozin

Item No. 15952

CAS Registry No.: 1408245-02-2
Formal Name: (1S)-1,5-anhydro-1-C-[4-chloro-3-[(4-ethoxyphenyl)methyl]phenyl]-D-galactitol
MF: $C_{21}H_{25}ClO_6$
FW: 408.9
Purity: ≥95%
UV/Vis.: λ_{max}: 224 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

galacto-Dapagliflozin is supplied as a crystalline solid. A stock solution may be made by dissolving the galacto-dapagliflozin in the solvent of choice. galacto-Dapagliflozin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of galacto-dapagliflozin in ethanol and DMSO is approximately 30 mg/ml and approximately 50 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of galacto-dapagliflozin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of galacto-dapagliflozin in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Renal glucose transport is mediated by sodium-glucose cotransporters (SGLT) 1 and 2.[1] In humans, SGLT2 is responsible for the majority of glucose reabsorption in the kidney.[1] galacto-Dapagliflozin is a potent inhibitor of human SGLT2 that is 1,000-fold less potent at human SGLT1 (K_i values are 2 and 25,000 nM, respectively).[2] It also dissociates from hSGLT2 more slowly than from hSGLT1 (half-time off rates are 19 and 0.9 seconds, respectively).[2]

References

1. Hummel, C.S., Lu, C., Loo, D.D.F., *et al.* Glucose transport by human renal Na^+/D-glucose cotransporters SGLT1 and SGLT2. *Am. J. Physiol. Cell Physiol.* **300**, C14-C21 (2011).
2. Hummel, C.S., Lu, C., Liu, J., *et al.* Structural selectivity of human SGLT inhibitors. *Am. J. Physiol. Cell Physiol.* **302(2)**, C373-C382 (2012).

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