

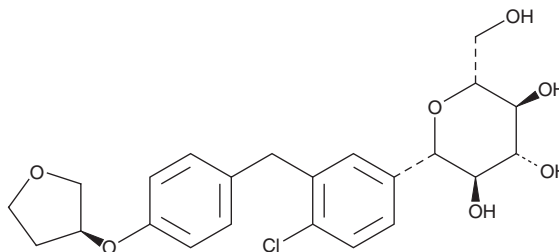
PRODUCT INFORMATION



Empagliflozin

Item No. 17375

CAS Registry No.: 864070-44-0
Formal Name: (1S)-1,5-anhydro-1-C-[4-chloro-3-[[4-[[[(3S)-tetrahydro-3-furanyl]oxy]phenyl]methyl]phenyl]-D-glucitol
Synonym: BI 10773
MF: C₂₃H₂₇ClO₇
FW: 450.9
Purity: ≥98%
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

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

Empagliflozin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, empagliflozin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Empagliflozin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Empagliflozin is a sodium-glucose cotransporter 2 (SGLT2) inhibitor (IC₅₀ = 3.1 nM for the human transporter).¹ It is selective for SGLT2 over SGLT1, -4, -5, and -6 (IC₅₀s = 8.3, 11, 1.1, and 2 μM, respectively). Dietary administration of empagliflozin (0.03% for 10 weeks) reduces non-fasting blood glucose levels, as well as aortic superoxide levels and cardiac interstitial fibrosis, in *db/db* mice.² It also decreases the severity of glomerulosclerosis, as well as reduces the escape latency in the Morris water maze, in the same model. Formulations containing empagliflozin have been used in the treatment of type 2 diabetes.

References

1. Grempler, R., Thomas, L., Eckhardt, M., *et al.* Empagliflozin, a novel selective sodium glucose cotransporter-2 (SGLT-2) inhibitor: Characterisation and comparison with other SGLT-2 inhibitors. *Diabetes Obes. Metab.* **14**(1), 83-90 (2012).
2. Lin, B., Koibuchi, N., Hasegawa, Y., *et al.* Glycemic control with empagliflozin, a novel selective SGLT2 inhibitor, ameliorates cardiovascular injury and cognitive dysfunction in obese and type 2 diabetic mice. *Cardiovasc. Diabetol.* **13**, 148 (2014).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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