

PRODUCT INFORMATION



Empagliflozin-d₄

Item No. 22369

Formal Name: (1S)-1,5-anhydro-1-C-[4-chloro-3-[[4-[[[(3S)-tetrahydro-3-furanyl]oxy]phenyl-d₄]methyl]phenyl]-D-glucitol

MF: C₂₃H₂₃D₄ClO₇

FW: 454.9

Chemical Purity: ≥98% (Empagliflozin)

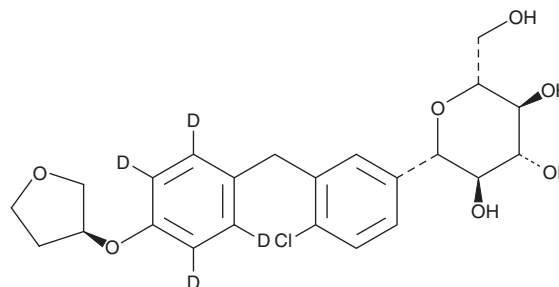
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

Supplied as: A 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-d₄ is intended for use as an internal standard for the quantification of empagliflozin (Item No. 17375) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Empagliflozin-d₄ is supplied as a solid. A stock solution may be made by dissolving the empagliflozin-d₄ in the solvent of choice, which should be purged with an inert gas. Empagliflozin-d₄ is soluble in DMSO.

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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