Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Empagliflozin

Catalog No: tcsc0940

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
864070-44-0

Formula:
$C_{23}H_{27}ClO_7$

Pathway:
Membrane Transporter/Ion Channel

Target:
SGLT

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 225 mg/mL (498.99 mM); H2O : 0.11 mg/mL (0.24 mM; Need ultrasonic and warming)

Alternative Names:
BI 10773

Observed Molecular Weight:
450.91

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Product Description

Empagliflozin is a selective sodium glucose cotransporter-2 (**SGLT-2**) inhibitor with an **IC_{50}** of 3.1 nM for hSGLT-2.

IC50 & Target: IC50: 3.1 nM (SGLT-2), 1.1 μM (SGLT-5), 2 μM (SGLT-6), 8.3 μM (SGLT-1), 11 μM (SGLT-4)[1]

In Vitro: Empagliflozin is a potent and competitive SGLT-2 inhibitor with an excellent selectivity profile and the highest selectivity window of the tested SGLT-2 inhibitors over hSGLT-1. Empagliflozin inhibits the uptake of [^{14}C]-alpha-methyl glucopyranoside (AMG) via hSGLT-2 in a dose-dependent manner with an IC_{50} of 3.1 nM, but is less potent for other SGLTs (IC_{50} range: 1100-11000 nM). [^{3}H]-Empagliflozin displays a high affinity for SGLT-2 with a mean K_d of 57±37 nM in the absence of glucose in kinetic binding experiments[1].

In Vivo: Glucose intolerance is significantly improved after 8 days of Empagliflozin treatment at either dose (3mg/kg Empagliflozin 3058±180 vs 10mg/kg Empagliflozin 3090±219). Therefore, acute treatment with Empagliflozin has a beneficial effect on hyperglycemia and glucose intolerance. Since there are no significant differences in blood glucose homeostasis with the two different doses of Empagliflozin, and random blood glucose levels of T1DM mice are significantly improved by 3mg/kg of Empagliflozin, the effect of the lower dose of Empagliflozin (3mg/kg) is investigated on preserving β-cell mass and function[2].