Product Data Sheet

Chemical Properties

Product Name: Empagliflozin (BI 10773)
Cas No.: 864070-44-0
M.Wt: 450.91
Formula: C23H27ClO7

Chemical Name: (2S,3R,4R,5S,6R)-2-[4-chloro-3-[[4-[(3S)-oxolan-3-yl]oxyphenyl]methyI]phenyl]-6-(hydroxymethyl)oxane-3,4,5-triol
Canonical SMILES: C1CC1OC2=CC=C(C=C2)CC3=C(C=C3)C4C(C(C(C(O4)CO)O)O)O)Cl
Solubility: >20.75mg/mL in DMSO
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: Metabolism
Pathways: SGLT

Description:
Empagliflozin is a selective inhibitor of SGLT-2 with IC50 value of 3.1 nM [1]. Sodium glucose cotransporter-2 (SGLT-2) is a member of sodium glucose co-transporter family and plays a pivotal role in glucose reabsorption in the kidney [2].
Empagliflozin is a potent SGLT-2 inhibitor and has a high degree of selectivity over SGLT-1, 4, 5 and 6 than other reported SGLT-2 inhibitors. When tested with a panel of human cell lines over-expressed SGLT-1, 2, 4, 5 and 6, Empagliflozin treatment competitively bind to SGLT-2 over glucose at low dose [1]. In human proximal tubular cell (PTC) cell line HK2 cells, Empagliflozin treatment for 72 h inhibits the expression of SGLT-2 which in turn reversed high glucose induced TLR4 expression, NF-κB binding, IL-6 secretion, AP-1 binding and CIV expression [3]. In Zucker diabetic fatty rat model, oral administration of Empagliflozin shows good efficiency with moderate total plasma clearance (CL) and bioavailability (BA) which indicated that Empagliflozin as an innovative therapeutic approach to treat diabetes in clinic [1]. When treated Zucker diabetic fatty rat model with Empagliflozin, both single and multiple doses results in the urinary glucose excretion and reductions in blood glucose levels [4].

Reference:

Product Validation

Empagliflozin(BI 10773) shows high selectivity for SGLT-2 over SGLT-1,4,5 and 6.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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. Shortterm 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.