

Product Data Sheet

Product Name: KGA-2727

Cat. No.: GC60217

Chemical Properties

Cas. No. 666842-36-0

SMILES O=C(N)CCNCCCOC1=CC=C(CC2=C(C(C)C)NN=C2O[C@H]3[C@@H]([C@H]([C@@H]([C@@H](CO)O3)O)O)O)C(C)=C1

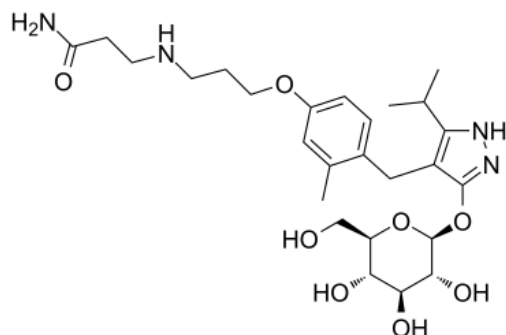
Formula $C_{26}H_{40}N_4O_8$ M.Wt 536.62

Solubility DMSO: 100 mg/mL (186.35 mM) Storage 4°C, protect from light

General For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the tips ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Evaluation sample solution : ship with blue ice All other available size: ship with RT, or Condition blue ice upon request.

Structure



Background

KGA-2727 is a first selective, high-affinity and orally active SGLT1 inhibitor with K_{is} of 97.4 nM and 43.5 nM for human and rat SGLT1, respectively. The selectivity ratios (K_i for SGLT2/ K_i for SGLT1) of KGA-2727 are 140 (human) and 390 (rat). KGA-2727 has antidiabetic efficacy[1].

A Dixon plot analysis for KGA-2727 displays good linearity for human SGLT1 and SGLT2. The results of the Dixon plot show that KGA-2727 inhibits these SGLTs in a competitive manner.

Caution: Product has not been fully validated for medical applications. For research use only.

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KGA2727 dose-dependently inhibits Methyl-Dglucopyranoside (AMG) uptake by SGLT1 and SGLT2[1].

In the oral glucose tolerance test with streptozotocin-induced diabetic rats, KGA-2727 attenuates the elevation of plasma glucose after glucose loading, indicating that KGA-2727 improves postprandial hyperglycemia[1]. In Zucker diabetic fatty (ZDF) rats, chronic treatments with KGA-2727 reduces the levels of plasma glucose and glycated hemoglobin. Furthermore, KGA-2727 preserves glucose-stimulated insulin secretion and reduces urinary glucose excretion with improved morphological changes of pancreatic islets and renal distal tubules in ZDF rats[1].

[1]. Shibazaki T, et al. KGA-2727, a novel selective inhibitor of a high-affinity sodium glucose cotransporter (SGLT1), exhibits antidiabetic efficacy in rodent models. J Pharmacol Exp Ther. 2012 Aug;342(2):288-96.

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