Catalog # 10-3576

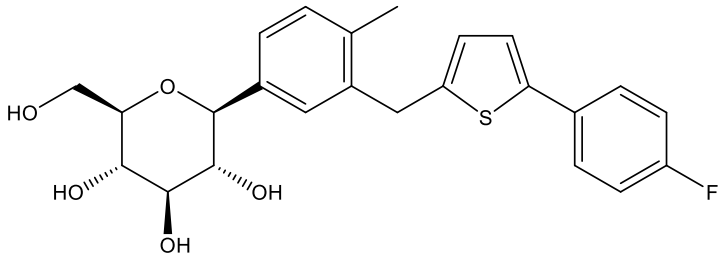
Canagliflozin

CAS# 842133-18-0

(1S)-1,5-anhydro-1-C-[3-[[5-(4-fluorophenyl)-2-thienyl]methyl]-4-methylphenyl]-D-glucitol;

JNJ-24831754

Lot # X106208



Canagliflozin (842133-18-0) is a potent inhibitor of the sodium-dependent glucose cotransporter 2 (SGLT2), IC_{50} = 2.2 nM, selective over SGLT1, IC_{50}=910 nM.[1] Dose dependently increases glucose excretion in healthy subjects.[2] Displays beneficial effects in nonalcoholic fatty liver disease (NAFLD).[3] Extends lifespan in male but not female mice.[4] Inhibits cancer cell proliferation via inhibition of mitochondrial complex-1 supported respiration.[5] Suppresses the growth of pancreatic cancer cells.[6]

1) Nomura *et al*. (2010), *Discovery of canagliflozin, a novel C-glucoside with thiophene ring, as sodium-dependent glucose cotransporter 2 inhibitor for the treatment of type 2 diabetes mellitus*; J. Med. Chem., **53** 6355
2) Shaw *et al*. (2011), *Canagliflozin, a novel inhibitor of sodium glucose co-transporter 2, dose dependently reduces calculated renal threshold for glucose excretion and increases urinary glucose excretion in healthy subjects*; Diabetes Obes. Metab., **13** 669
3) Mantovani *et al*. (2020), *Sodium-Glucose Cotransporter-2 Inhibitors for Treatment of Nonalcoholic Fatty Liver Disease: A Meta-Analysis of Randomized Controlled Trials*; Metabolites, **11** 22
4) Miller *et al.* (2020), *Canagliflozin extends life span in genetically heterogeneous male but not female mice*; JCI Insight, **5** e140019
5) Vilani *et al*. (2016), *The diabetes medication Canagliflozin reduces cancer cell proliferation by inhibiting mitochondrial complex-I supported respiration*; Mol. Metab., **5** 1048
6) Xu *et al*. (2020), *Inhibitory effects of canagliflozin on pancreatic cancer are mediated via the downregulation of glucose transporter-1 and lactate dehydrogenase A*; Int. J. Oncol. **57** 1223

PHYSICAL DATA

Molecular Weight:	444.52
Molecular Formula:	$C_{24}H_{25}FO_5S$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 40 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase.
	Solutions in DMSO may be stored at -20°C.for up to 1 month.

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