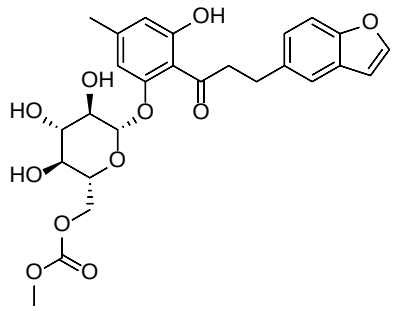
Product data sheet

MedKoo Cat#: 510330 Name: T-1095 CAS#: 209746-59-8 (T-1095) Chemical Formula: $C_{26}H_{28}O_{11}$ Exact Mass: 516.1632 Molecular Weight: 516.49	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
T-1095 is a potent and selective inhibitor of Na+-glucose cotransporters (SGLTs). T-1095 may be a useful antidiabetic drug. Long-term treatment with T-1095 causes sustained improvement in hyperglycemia and prevents diabetic neuropathy in Goto-Kakizaki Rats. Chronic administration of T-1095 (0.1% w w(-1) pellet chow, for 12 weeks) decreased blood glucose and haemoglobin A(1C) levels, and improved glucose intolerance in db/db mice. The age-related decrease in plasma insulin levels was markedly inhibited and there was a 2.5 fold increase of insulin content in the pancreas of T-1095-treated db/db mice. T-1095 improved the metabolic abnormalities and inhibit the development of diabetic complications in db/db mice.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.94 mL	9.68 mL	19.36 mL
5 mM	0.39 mL	1.94 mL	3.87 mL
10 mM	0.19 mL	0.97 mL	1.94 mL
50 mM	0.04 mL	0.19 mL	0.39 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

TBD

In vivo study

1. Oku A, Ueta K, Arakawa K, Kano-Ishihara T, Matsumoto M, Adachi T, Yasuda K, Tsuda K, Saito A. Antihyperglycemic effect of T-1095 via inhibition of renal Na+-glucose cotransporters in streptozotocin-induced diabetic rats. Biol Pharm Bull. 2000 Dec;23(12):1434-7. doi: 10.1248/bpb.23.1434. PMID: 11145172.
2. Ueta K, Ishihara T, Matsumoto Y, Oku A, Nawano M, Fujita T, Saito A, Arakawa K. Long-term treatment with the Na+-glucose cotransporter inhibitor T-1095 causes sustained improvement in hyperglycemia and prevents diabetic neuropathy in Goto-Kakizaki Rats. Life Sci. 2005 Apr 22;76(23):2655-68. doi: 10.1016/j.lfs.2004.09.038. PMID: 15792833.

7. Bioactivity
Biological target: T-1095 is a potent and selective inhibitor of Na+-glucose cotransporters (SGLTs).

Product data sheet

In vitro activity

TBD

In vivo activity

The effects of T-1095, an orally active inhibitor of Na(+)-glucose cotransporter (SGLT), on the development and severity of diabetes in Goto-Kakizaki (GK) rat, a spontaneous, non-obese model of type 2 diabetes, were examined. T-1095 treatment significantly decreased both blood glucose and hemoglobin A(1C) levels in the GK rats. The concomitant increase of urinary glucose excretion indicated that the hypoglycemic action of T-1095 is derived from the enhancement of urinary glucose disposal. Although food intake was not changed in the T-1095-treated rats, the body weight gain was retarded. T-1095 treatment partially ameliorated oral glucose tolerance but not the impaired glucose-induced insulin secretion. Homeostasis model assessment (HOMA) indicated the existence of insulin resistance in GK rats and a significant restoration by T-1095-treatment. There was a reduction of the thermal response in tail-flick testing following long-term hyperglycemia (diabetic neuropathy). Treatment of T-1095 significantly prevented the development of diabetic neuropathy in male GK rats. Sustained improvement of hyperglycemia and prevention of diabetic neuropathy by the T-1095-treatment provide further support the use of SGLT inhibitors for the treatment of diabetes.

Reference: Life Sci. 2005 Apr 22;76(23):2655-68.
https://www.sciencedirect.com/science/article/abs/pii/S0024320505000640?via%3Dihub