PBI-6DNJ

Cat. No.: HY-150723

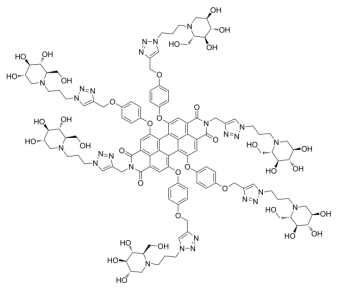
Molecular Formula: $C_{120}H_{146}N_{26}O_{36}$

Molecular Weight: 2528.6

Target: Glucosidase

Pathway: Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

PBI-6DNJ is an orally active and potent multivalent glycosidase inhibitor. PBI-6DNJ exhibits good inhibition activity against α-glucosidase from mice, with a K_i of 0.14 μM. PBI-6DNJ exhibits good hypoglycemic activity. PBI-6DNJ can be used for type 2 diabetes research[1].

IC_{50} & Target

Ki: 0.02 ± 0.002 μM (α-glucosidase from rice), 0.08 ± 0.03 μM (α-mannosidase from jack bean), 0.14 ± 0.007 μM (α-glucosidase from mice), 18.88 ± 0.30 μM (α-glucosidase from aspergilcus niger)[1]

In Vivo

PBI-6DNJ (0-2 mg/kg, Orally, once) reduces postprandial blood glucose (PBG) levels[1].

PBI-6DNJ (2.0 mg/kg, Orally, daily for 7 day) has good biocompatibility and no damage to mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL-6J mice (twenty-eight, 4-5 weeks old, 18-20 g)[1]
Dosage:	0.5, 1.0 and 2.0 mg/kg
Administration:	Orally, once
Result:	Reduced postprandial blood glucose (PBG) level, resulting in 24.41 ± 3.02%, 34.65 ± 9.66%, and 37.77 ± 4.35% of decreases in PBG levels at the doses of 0.5, 1.0 and 2.0 mg/kg, respectively.

Animal Model:	C57BL-6J mice (twenty-eight, 4-5 weeks old, 18-20 g)[1]
Dosage:	2.0 mg/kg
Administration:	Orally, daily for 7 day
Result:	Resulted in increase of the level of UREA (8.63 ± 0.59 mmol/L) and decrease of the level of UA level (242.06 ± 14.77 μmol/L). No obvious differences in the levels of UREA and UA were observed. Showed a slight decrease of 0.30 mmol/L in the level of LDL. The AST level of PBI-6DNJ group (269.71 ± 39.77 U/L) was higher than that of the control group (221.38 ± 23.03 U/L), and the ALT level (59.14 ± 7.13 U/L) was lower than that of the control group (70.49 ± 8.78U/L).

REFERENCES

[1]. Jian-XingYang, et al. Multivalent glucosidase inhibitors based on perylene bisimide and iminosugar conjugates. European Journal of Medicinal Chemistry. 2022 November 5, 241(3):114621.

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