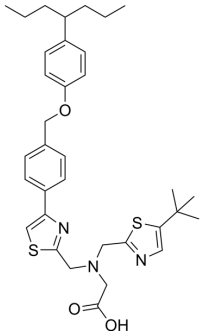
JTT 551

Cat. No.:	HY-19779
CAS No.:	776309-04-7
Molecular Formula:	$C_{34}H_{43}N_3O_3S_2$
Molecular Weight:	605.85
Target:	Phosphatase
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (165.06 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6506 mL	8.2529 mL	16.5057 mL
	5 mM	0.3301 mL	1.6506 mL	3.3011 mL
	10 mM	0.1651 mL	0.8253 mL	1.6506 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

JTT 551 is selective a protein tyrosine phosphatase 1B (PTP1B) inhibitor, with K_is of 0.22 μM and 9.3 μM for PTP1B and TCPTP (T-cell protein tyrosine phosphatase), respectively; JTT 551 can be used in the research of type 2 diabetes mellitus.

IC_{50} & Target

IC50: 0.22 μM (PTP1B), 9.3 μM (TCPTP)[1]

In Vitro

JTT 551 is selective a protein tyrosine phosphatase 1B (PTP1B) inhibitor, with K_is of 0.22 μM and 9.3 μM for PTP1B and TCPTP (T-cell protein tyrosine phosphatase), respectively. JTT 551 shows low affinity at CD45 PTP (CD45) and leucocyte common antigen-related (LAR) PTP with K_is of both >30 μM. Furthermore, JTT-551 (10 and 30 μM) enhances the insulin-induced deoxyglucose uptake in a dosedependent manner[1].

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

In Vivo

JTT 551 (3 mg/kg, 30 mg/kg, p.o.) dose-dependently decreases blood glucose level on Days 7, 14 and 28 in db/db Mice. JTT 551 also significantly reduces triglyceride (TG) level at 30 mg/kg on Day 7 but does not alter insulin and total cholesterol (TC) levels[1].

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

PROTOCOL

Animal Administration [1]

Mice[1]

Db/db mice are used in the assay. JTT 551 at doses of 3 or 30 mg/kg or pioglitazone at 3 mg/kg is administered orally to 6-week-old male db/db mice (n = 5) once daily for 4 weeks. Body weight is measured twice weekly and blood samples are collected from the orbital venous plexus before dosing on Days 7, 14 and 28. Blood glucose, insulin, triglyceride (TG) and total cholesterol (TC) levels are determined at the respective blood-sampling time points, and the haemoglobin A1c (HbA1c) level is determined before dosing on Day 28. HbA1c level is measured[1].

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

REFERENCES

[1]. Fukuda S, et al. Pharmacological profiles of a novel protein tyrosine phosphatase 1B inhibitor, JTT-551. Diabetes Obes Metab. 2010 Apr;12(4):299-306.

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