Product Data Sheet

Product Name: JTT 551
Cat. No.: GC31499

Chemical Properties

Cas. No.	776309-04-7		
SMILES	O=C(O)CN(CC1=NC=C(C(C)(C)C)S1)CC2=NC(C3=CC=C(COC4=CC=C(C(CCC)CCC)C=C4)C=C3)=CS2		
Formula	$C_{34}H_{43}N_3O_3S_2$	M.Wt	605.85
Solubility	DMSO : 100 mg/mL (165.06 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	JTT 551		

Protocol

Animal experiment:

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].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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.

Background

JTT 551 is selective a protein tyrosine phosphatase 1B (PTP1B) inhibitor, with Kis 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.

JTT 551 is selective a protein tyrosine phosphatase 1B (PTP1B) inhibitor, with Kis 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 Kis of both >30 μM. Furthermore, JTT-551 (10 and 30 μM) enhances the insulin-induced deoxyglucose uptake in a dosedependent manner[1].

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].

[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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