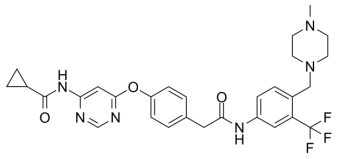
WS6

Cat. No.:	HY-12461
CAS No.:	1421227-53-3
Molecular Formula:	$C_{29}H_{31}F_3N_6O_3$
Molecular Weight:	568.59
Target:	Others
Pathway:	Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (175.87 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent, Mass	1 mg	5 mg	10 mg
1 mM	1.7587 mL	8.7937 mL	17.5874 mL
5 mM	0.3517 mL	1.7587 mL	3.5175 mL
10 mM	0.1759 mL	0.8794 mL	1.7587 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

WS6 is a novel small molecule that promotes β cell proliferation in rodent and human primary islets with EC50 of 0.28 uM(R7T1 cell viability).EC50 value: 0.28 uM [1]Target: β cell proliferation agonistin vitro: WS6 induced up to 4% of rat β cells to proliferate, with an EC50 of 0.4 μM. In the same format, WS6 also induced 3% of human β cells to proliferate, with a similar potency to the rat β cells. WS6 induced R7T1 proliferation in dose response, with EC50 value of 0.28 μM, Proliferation of R7T1 cells, which are cultured in suspension and grow as clusters, was apparent by visible inspection. in vivo: RIP-DTA mice were fed Dox in the drinking water until the onset of overt diabetes (blood glucose reading >300 mg/dL, typically 4-10 days), at

which point Dox treatment was discontinued and treatment with WS6 was initiated (5 mg/kg every other day via intraperitoneal injection). Pharmacokinetic studies with WS6 at 50 mg/kg revealed a CMAX of ⊠5 μM and T1/2 of ⊠2 h. Treatment with WS6 caused a progressive reduction of blood glucose over time, starting around 2 weeks.

REFERENCES

[1]. Shen W, et al. Small-molecule inducer of β cell proliferation identified by high-throughput screening. J Am Chem Soc. 2013 Feb 6;135(5):1669-72.

[2]. Zhang H, Xiang L, Yang L, et al. WS6 Induces Adult Hippocampal Neurogenesis in Correlation to its Antidepressant Effect on the Alleviation of Depressive-like Behaviors of Rats. Neuroscience. 2021;473:119-129.

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