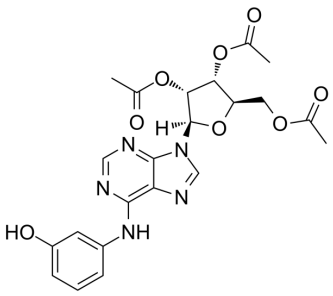
IMM-H007

Cat. No.:	HY-141645
CAS No.:	1221412-23-2
Molecular Formula:	$C_{22}H_{23}N_5O_8$
Molecular Weight:	485.45
Target:	TGF-β Receptor; AMPK; NF-κB; JNK; AP-1
Pathway:	TGF-beta/Smad; Epigenetics; PI3K/Akt/mTOR; NF-κB; MAPK/ERK Pathway; Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (257.49 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	2.0599 mL	10.2997 mL	20.5994 mL
5 mM	0.4120 mL	2.0599 mL	4.1199 mL
10 mM	0.2060 mL	1.0300 mL	2.0599 mL

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

BIOLOGICAL ACTIVITY

Description

IMM-H007 (WS070117) is an orally active and potent AMPK (AMP-activated protein kinase) activator and TGFβ1 (transforming growth factor β1) antagonist. IMM-H007 has protective effects in cardiovascular diseases via activation of AMPK. IMM-H007 negatively regulates endothelium inflammation through inactivating NF-κB and JNK/AP1 signaling. IMM-H007 inhibits ABCA1 degradation. IMM-H007 resolves hepatic steatosis in HFD-fed hamsters by the regulation of lipid metabolism. IMM-H007 can be used for the research of nonalcoholic fatty liver disease (NAFLD) and inflammatory atherosclerosis[1][2][3].

In Vivo

IMM-H007 inhibits fatty acid import into hepatocytes and liver lipogenesis, and concomitantly stimulates fatty acid oxidation, autophagy, and export of hepatic lipids[2].

IMM-H007 (200 mg/kg, Orally, once per day for 10 days) inhibits ISO-induced cardiac fibrosis and diastolic dysfunction independently of AMPKα2 expression, reduces ISO-induced Smad2/3 phosphorylation downstream of TGFβ1 and cardiac fibrosis via an AMPKα2-independent pathway, but the inhibition of TGFβ1 expression is AMPKα2-dependent[3].

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

REFERENCES

[1]. Yu J, et al. IMM-H007, a novel small molecule inhibitor for atherosclerosis, represses endothelium inflammation by regulating the activity of NF-κB and JNK/AP1 signaling. Toxicol Appl Pharmacol. 2019 Oct 15;381:114732.

[2]. Shi H, et al. IMM-H007, a new therapeutic candidate for nonalcoholic fatty liver disease, improves hepatic steatosis in hamsters fed a high-fat diet. FEBS Open Bio. 2017 Aug 29;7(9):1379-1391.

[3]. Wang SX, et al. IMM-H007 attenuates isoprenaline-induced cardiac fibrosis through targeting TGFβ1 signaling pathway. Acta Pharmacol Sin. 2022 Mar 30.

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