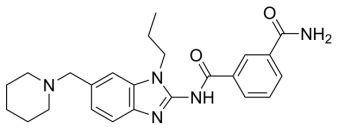
HS-276

Cat. No.:	HY-147141
CAS No.:	2767422-72-8
Molecular Formula:	$C_{24}H_{29}N_5O_2$
Molecular Weight:	419.52
Target:	IRAK; TNF Receptor
Pathway:	Immunology/Inflammation; Apoptosis
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	HS-276 is an orally active, potent and highly selective TAK1 inhibitor, with a K_i of 2.5 nM. HS-276 shows significant inhibition of TAK1, CLK2, GCK, ULK2, MAP4K5, IRAK1, NUAK, CSNK1G2, CAMKKβ-1, and MLK1, with IC_{50} values of 8.25, 29, 33, 63, 125, 264, 270, 810, 1280, and 5585 nM, respectively. HS-276 can be used for rheumatoid arthritis (RA) research[1].	
IC_{50} & Target	IRAK1 264 nM (IC_{50})	IRAK4 2500 nM (IC_{50})
In Vitro	HS-276 reduces expression of TNF, IL-6, and IL-1β in a dose-dependent manner, with IC_{50} values of 138, 201, and 234 nM, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	HS-276 (CIA mouse model of inflammatory arthritis, 50 mg/kg, IP, daily for 6 days) reduces inflammation, pannus, cartilage damage (CD), bone resorption (BR), and periosteal bone formation (PBF) histological manifestations[1]. HS-276 (CD-1 mice, 30 mg/kg, Oral gavage, once) shows excellent bioavailability in mice with a C_{max} of 3.68 μM and %F of 98.1%[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Scarneo S, et al. Development and Efficacy of an Orally Bioavailable Selective TAK1 Inhibitor for the Treatment of Inflammatory Arthritis. ACS Chem Biol. 2022 Mar 18;17(3):536-544.

Caution: Product has not been fully validated for medical applications. For research use only.

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