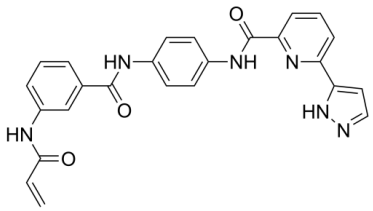
Data Sheet

Product Name:	JH-X-119-01
Cat. No.:	CS-0226551
CAS No.:	2227368-54-7
Molecular Formula:	$C_{25}H_{20}N_6O_3$
Molecular Weight:	452.46
Target:	IRAK
Pathway:	Immunology/Inflammation
Solubility:	DMSO : 250 mg/mL (552.54 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

JH-X-119-01 is a potent and selective interleukin-1 receptor-associated kinases 1 (**IRAK1**) inhibitor. JH-X-119-01 ameliorates LPS-induced sepsis in mice[1]. JH-X-119-01 inhibits IRAK1 biochemically with an apparent **IC_{50}** of 9 nM while exhibiting no inhibition of IRAK4 at concentrations up to 10 μM[2]. ***In Vitro:*** JH-X-119-01 (10 μM) decreases phosphorylation of NF-κB and mRNA levels of IL-6 and TNFα in LPS-treated macrophages in vitro. JH-X-119-01 selectively inhibits IRAK1 phosphorylation[1]. JH-X-119-01 exhibits off-target inhibition of only two additional kinases, YSK4 and MEK3. Dose response analysis reveals an IC_{50} of 57 nM for YSK4[2]. JH-X-119-01 shows moderate cell killing effects in a panel of Waldenström's macroglobulinemia (WM) cells, Diffused Large B-cell Lymphoma (DLBCL) cells, and lymphoma cells expressing mutant MYD88, with EC_{50}s ranging from 0.59 to 9.72 μM[2]. ***In Vivo:*** JH-X-119-01 improves survival and decreases immunopathies of LPS-challenged mice. JH-X-119-01 increases survival of mice at the dose of 5 mg/kg body weight. Survival is further improved when the dose is increased to 10 mg/kg[1].

References:

[1]. Bin Pan, et al. Selective inhibition of interleukin-1 receptor-associated kinase 1 ameliorates lipopolysaccharide-induced sepsis in mice. Int Immunopharmacol. 2020 Aug;85:106597.

[2]. John M Hatcher, et al. Discovery of a Selective, Covalent IRAK1 Inhibitor with Antiproliferative Activity in MYD88 Mutated B-Cell Lymphoma. ACS Med Chem Lett. 2020 Oct 9;11(11):2238-2243.

CAIndexNames:

2-Pyridinecarboxamide, N-[4-[[3-[(1-oxo-2-propen-1-yl)amino]benzoyl]amino]phenyl]-6-(1H-pyrazol-3-yl)-

SMILES:

O=C(C=C)NC1=CC=CC(C(NC2=CC=C(NC(C3=NC(C4=CC=NN4)=CC=C3)=O)C=C2)=O)=C1

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