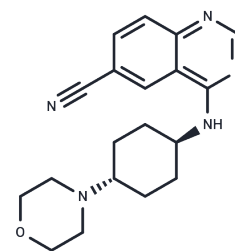


IRAK4-IN-1

Chemical Properties

CAS No. :	1820787-94-7
Formula:	C ₁₉ H ₂₃ N ₅ O
Molecular Weight:	337.42
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	IRAK4-IN-1 is an interleukin-1 receptor-associated kinase 4 (IRAK4) inhibitor with an IC ₅₀ of 7 nM.
Targets(IC ₅₀)	IRAK
In vitro	The in vitro metabolic stability profile of IRAK4-IN-1 was assessed, yielding an EC ₅₀ of 2300 nM in rat whole blood (RWB).
In vivo	Oral pharmacokinetic analyses of IRAK4-IN-1 indicate that it possesses a high bioavailability of 73%, along with low plasma clearance (Cl _p =22 mL/min/kg), which culminates in a stable half-life of 1.3 hours.
Animal Research	In the TLR driven in vivo model, female Lewis rats are dosed with either vehicle or IRAK4-IN-1 (Compound 23; 3, 10, 30, and 100 mg/kg; p.o.) dosed at 1 h prior to stimulation with Resiquimod, R848 (5 mg/kg, IP). At 1.5 h post R848 stimulation, blood samples are obtained from the animals and cytokine levels are measured.

Solubility Information

Solubility	DMSO: 1 mg/mL (2.96 mM), Sonication is recommended. H ₂ O: < 0.1 mg/mL (insoluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.96 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9637 mL	14.8183 mL	29.6367 mL
5 mM	0.5927 mL	2.9637 mL	5.9273 mL
10 mM	0.2964 mL	1.4818 mL	2.9637 mL
50 mM	0.0593 mL	0.2964 mL	0.5927 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Smith GF, et al. Identification of quinazoline based inhibitors of IRAK4 for the treatment of inflammation. Bioorg Med Chem Lett. 2017 Jun 15;27(12):2721-2726.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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