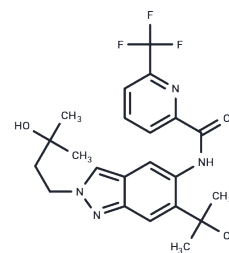


## IRAK4-IN-20

## Chemical Properties

CAS No. :	1931994-80-7
Formula:	C <sub>22</sub> H <sub>25</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub>
Molecular Weight:	450.45
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-20 is a potent and orally active IRAK4 inhibitor (IC <sub>50</sub> :3.55 nM). IRAK4-IN-20, which has anti-inflammatory, antitumor and anticancer effects, is often used to treat acute respiratory distress syndrome (ARDS).
Targets(IC <sub>50</sub> )	IRAK
In vitro	Compound BAY-1834845 (IRAK4-IN-20) at a concentration of 500 nM, effectively reduces the secretion of inflammatory cytokines when administered for 20 hours in an in vitro assay involving LPS-stimulated human peripheral blood mononuclear cells (PBMC) [1].
In vivo	IRAK4-IN-20 (Compound BAY-1834845), administered orally at 150 mg/kg either once 30 minutes before or twice at 4 and 12 hours after LPS induction, significantly mitigated acute respiratory distress syndrome in 6-7-week-old female Balb/c mice models. This treatment markedly reduced inflammatory cell and neutrophil infiltration in bronchoalveolar lavage fluid (BALF), decreased total T cells, monocytes, and macrophages, and preserved the integrity of naïve lymphocytes and stromal cells, including endothelial cells, chondrocytes, and smooth muscle cells. Moreover, it more effectively regulated inflammation and innate immunity genes compared to Dexamethasone, demonstrating its potential as a therapeutic agent for ARDS.

## Solubility Information

Solubility	DMSO: 25 mg/mL (55.5 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.220 mL	11.100 mL	22.200 mL
5 mM	0.444 mL	2.220 mL	4.440 mL
10 mM	0.222 mL	1.110 mL	2.220 mL
50 mM	0.0444 mL	0.222 mL	0.444 mL

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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

Li Q, Li R, Yin H, et al. Oral IRAK4 inhibitor BAY-1834845 prevents acute respiratory distress syndrome. *Biomed Pharmacother.* 2022;153:113459.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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