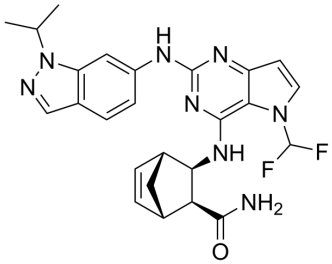
IRAK4-IN-19

Cat. No.:	HY-150733
Molecular Formula:	$C_{25}H_{26}F_2N_8O$
Molecular Weight:	492.52
Target:	IRAK
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	IRAK4-IN-19 is a potent interleukin-1 receptor-associated kinase 4 (IRAK4) inhibitor with an IC_{50} value of 4.3 nM. IRAK4-IN-19 can inhibit LPS-induced IL23 production in THP and DC cells, and stop arthritis development in arthritis rats. IRAK4-IN-19 can be used for researching arthritis disease[1].
IC_{50} & Target	IRAK4 4.3 nM (IC_{50})
In Vitro	IRAK4-IN-19 (compound 39) has inhibitory activity against LPS-induced IL23 in THP and DC with IC_{50}s of 0.23 and 0.22 μM, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	IRAK4-IN-19 (30 mg/kg; twice daily for 21 days) completely stops arthritis development in arthritis rats at 30 mg/kg[1]. IRAK4-IN-19 (1 mg/kg for IV, 5 mg/kg for PO, single dosage) exhibits a favorable pharmacokinetics profile[1]. IRAK4-IN-19 (5, 15, 45 and 75 mg/kg) exhibits good efficacy in an acute mouse model for the IL-1β induced IL-6 expression, with 64% inhibition at 75 mg/kg dose, 37% inhibition at 45 mg/kg dose, 16% inhibition at 15 mg/kg dose and 9% inhibition at 5 mg/kg[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Rats[1]
Dosage:	30 mg/kg
Administration:	twice daily for 21 days
Result:	Completely stopped arthritis development in arthritis rats at 30 mg/kg.

Animal Model:	Rats[1]
Dosage:	1 mg/kg, 5 mg/kg
Administration:	IV and PO, single dosage
Result:	Exhibited a favorable pharmacokinetics profile with a clearance of 6 mL/min/kg and oral

	bioavailability of 43%.

REFERENCES

[1]. Chen Y, et al. Bicyclic pyrimidine compounds as potent IRAK4 inhibitors. Bioorg Med Chem Lett. 2022 Jul 18:128900.

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