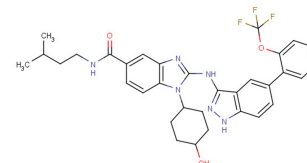


IRAK inhibitor 4

Chemical Properties

CAS No.:	1012104-68-5
Formula:	C33H35F3N6O3
Molecular Weight:	620.66
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	IRAK inhibitor 4 is an interleukin-1 receptor associated kinase 4 inhibitor.
Targets(IC ₅₀)	Others: None
In vitro	IRAK1/4 (20 µM) has an inhibitory effect on LPS mediated IL-6 production. IRAK1/4 inhibitor do not decrease p38 phosphorylation in AMs. Combination of IRAK1/4 and Rip2 inhibitors inhibits TLR2-mediated cytokine production in sarcoidosis PBMCs and AMs. IRAK4 is overexpressed and activated in T-ALL. IRAK4 mRNA level is elevated in T-ALL cells from patients compared with the levels detected in thymic T cells or T cells from peripheral blood. Lack of IRAK-4 impairs the production of proinflammatory mediators by macrophages and DCs in response to M. bovis and M. tuberculosis. IRAK-4 ^{-/-} cells stimulated with E. coli LPS display delayed activation kinetics of all signaling proteins analyzed, and exhibit dramatically reduced p65 phosphorylation.
In vivo	IRAK-4 ^{-/-} mice show increased bacterial burden in all organs at 15, 30, and 60 d postinfection. MCL1, but not BCL-xL, overrides the therapeutic effects of combinatorial IRAK1/4 inhibitor and ABT-737 therapy in vivo. IRAK-4 ^{-/-} mice exhibit a greatly reduced survival rate following aerosol infection compared with IRAK-4 ^{+/+} or IRAK-4 ^{+/-} mice.

Solubility Information

Solubility	DMSO: 12.5 mg/mL (20.14 mM) (< 1 mg/mL refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.611 mL	8.056 mL	16.112 mL
5 mM	0.322 mL	1.611 mL	3.222 mL
10 mM	0.161 mL	0.806 mL	1.611 mL
50 mM	0.032 mL	0.161 mL	0.322 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Marinho FV, et al. Lack of IL-1 Receptor-Associated Kinase-4 Leads to Defective Th1 Cell Responses and Renders Mice Susceptible to Mycobacterial Infection. *J Immunol.* 2016 Sep 1;197(5):1852-63.
2. Talreja J, et al. Dual Inhibition of Rip2 and IRAK1/4 Regulates IL-1 β and IL-6 in Sarcoidosis Alveolar Macrophages and Peripheral Blood Mononuclear Cells. *J Immunol.* 2016 Aug 15;197(4):1368-78.
3. Li Z, et al. Inhibition of IRAK1/4 sensitizes T cell acute lymphoblastic leukemia to chemotherapies. *J Clin Invest.* 2015 Mar 2;125(3):1081-97.

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