Data Sheet (Cat.No.T38423)

TargetMol

CL097

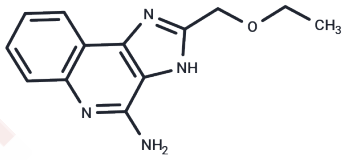
Chemical Properties

CAS No. : 1026249-18-2

Formula: C13H14N4O

Molecular Weight: 242.28

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	CL097 is an effective agonist of TLR7 and TLR8. CL097 induces pro-inflammatory cytokines in macrophages and NADPH oxidase priming, thereby increasing the fMLF-stimulated ROS production.
Targets(IC50)	Reactive Oxygen Species,ROS,TLR
In vitro	CL097 (0, 0.5, 2.5, 5, and 10 μg/mL) induces hyperactivation of the NADPH oxidase by stimulating the phosphorylation of p47phox on selective sites in human neutrophils[1]. CL097 (0.1 μM) induces activation of NF-κB in TLR7-transfected HEK293 cells and at 4 μM in TLR8-transfected HEK293 cells[3].
In vivo	in NOD mice, CL097 (5 mg/kg, s.c.) causes a modest specific lysis of the target peptide (25%). However, treatment with a combination of CL097 and CD40 agonist (10 mg/kg, i. p.) results in an increase of approximately twofold in the specific lysis of the IGRP-peptide-coated targets compared with CL097 treatment alone[2].

Solubility Information

Solubility	DMSO: 100 mg/mL (412.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (13.62 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1275 mL	20.6373 mL	41.2746 mL
5 mM	0.8255 mL	4.1275 mL	8.2549 mL
10 mM	0.4127 mL	2.0637 mL	4.1275 mL
50 mM	0.0825 mL	0.4127 mL	0.8255 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

Karama Makni-Maalej, et al. The TLR7/8 agonist CL097 primes N-formyl-methionyl-leucyl-phenylalanine-stimulated NADPH oxidase activation in human neutrophils: critical role of p47phox phosphorylation and the proline isomerase Pin1. J Immunol. 2012 Nov 1;189(9):4657-65.

A S Lee, et al. Toll-like receptor 7 stimulation promotes autoimmune diabetes in the NOD mouse. Diabetologia. 2011 Jun;54(6):1407-16.

Cindy Patinote, et al. Agonist and antagonist ligands of toll-like receptors 7 and 8: Ingenious tools for therapeutic purposes. Eur J Med Chem. 2020 May 1;193:112238.