

CL097 hydrochloride

Chemical Properties

CAS No. :

Formula: C₁₃H₁₅ClN₄O

Molecular Weight: 278.74

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 hydrochloride is a potent TLR7 and TLR8 agonist. CL097 hydrochloride induces pro-inflammatory cytokines in macrophages and NADPH oxidase priming, thereby increasing the fMLF-stimulated ROS production [2].
Targets(IC50)	Others, Reactive Oxygen Species, TLR
In vitro	CL097 effectively activates NF- κ B at concentrations of 0.1 μ M in TLR7-transfected HEK293 cells and 4 μ M in TLR8-transfected HEK293 cells [1]. It also triggers a hyperactivation of NADPH oxidase in human neutrophils, primarily by promoting phosphorylation of p47phox at specific sites. This activation suggests the involvement of p38 MAPK, ERK1/2, protein kinase C, and Pin1 in regulating the process. Additionally, CL097 not only induces phosphorylation of p47phox on these specific sites but also amplifies fMLF-induced phosphorylation of p47phox [2]. Western blot analysis on neutrophils, with concentrations ranging from 0 to 10 μ g/mL and a pretreatment duration of 30 minutes, demonstrated a concentration-dependent increase in p47phox phosphorylation [2].
In vivo	Stimulation with CL097 and a CD40 agonist enhances diabetogenic cytotoxic T lymphocyte (CTL) functionality in NOD mice. When administered subcutaneously (s.c.) at a dosage of 5 mg/kg, CL097 alone elicits a specific target peptide lysis rate of approximately 25%. However, the concurrent administration of CL097 (5 mg/kg, s.c.) and a CD40 agonist (10 mg/kg, intraperitoneally (i.p.)) significantly enhances the specific lysis, doubling the efficacy seen with CL097 alone against IGRP-peptide-coated targets. This study utilized female 8.3 NOD mice aged 5-6 weeks, highlighting a potentiated immune response through combined treatment.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5876 mL	17.9379 mL	35.8757 mL
5 mM	0.7175 mL	3.5876 mL	7.1751 mL
10 mM	0.3588 mL	1.7938 mL	3.5876 mL
50 mM	0.0718 mL	0.3588 mL	0.7175 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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