
Product Data Sheet

Product Name: CL097
Cat. No.: GC64526

Chemical Properties

Cas. No. 1026249-18-2

Formula C₁₃H₁₄N₄O

M.Wt 242.28

Solubility DMSO : 100 mg/mL (412.75 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Background

CL097, a potent TLR7/8 agonist, induces pro-inflammatory cytokines in macrophages[1]. CL097 induces NADPH oxidase priming, resulting in an increase of the fMLF-stimulated ROS production[2].

CL097 induces activation of NF-κB at 0.1 μM in TLR7 transfected HEK293 cells and at 4 μM in TLR8-transfected HEK293 cells[1]. CL097 induces hyperactivation of the NADPH oxidase by stimulating the phosphorylation of p47phox on selective sites in human neutrophils and suggest that p38 MAPK, ERK1/2, protein kinase C, and Pin1 control this process. CL097 induces the phosphorylation of p47phox on specific sites and enhances fMLF-induced p47phox phosphorylation[2].

CL097 and CD40 agonist stimulation induces efficient diabetogenic Cytotoxic T lymphocyte (CTL) function in NOD mice. CL097 (5 mg/kg, s.c.) alone 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[3].

[1]. Cindy Patinote, et al. Agonist and antagonist ligands of toll-like receptors 7 and 8:

Caution: Product has not been fully validated for medical applications. For research use only.

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- Ingenious tools for therapeutic purposes. Eur J Med Chem. 2020 May 1;193:112238.
- [2]. 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.
- [3]. A S Lee, et al. Toll-like receptor 7 stimulation promotes autoimmune diabetes in the NOD mouse. Diabetologia. 2011 Jun;54(6):1407-16.

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