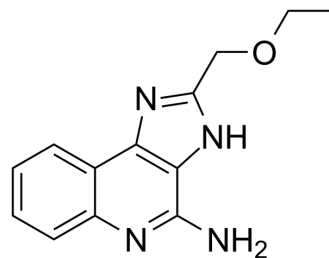


CL097

| | | | |
|---------------------------|---|-------|----------|
| Cat. No.: | HY-128799 | | |
| CAS No.: | 1026249-18-2 | | |
| Molecular Formula: | C ₁₃ H ₁₄ N ₄ O | | |
| Molecular Weight: | 242.28 | | |
| Target: | Toll-like Receptor (TLR); Reactive Oxygen Species | | |
| Pathway: | Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB | | |
| Storage: | Powder | -20°C | 3 years |
| | | 4°C | 2 years |
| | In solvent | -80°C | 6 months |
| | | -20°C | 1 month |



SOLVENT & SOLUBILITY

| | | | | |
|---|---|--------------------------|------------|------------|
| In Vitro | DMSO : 100 mg/mL (412.75 mM; Need ultrasonic) | | | |
| | | Solvent Concentration | Mass | |
| | | | 1 mg | 5 mg |
| | | | 10 mg | |
| Preparing Stock Solutions | 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 |
| Please refer to the solubility information to select the appropriate solvent. | | | | |
| In Vivo | <ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (10.32 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (10.32 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (10.32 mM); Clear solution | | | |

BIOLOGICAL ACTIVITY

| | | |
|-------------------------------------|--|------|
| Description | CL097, a potent TLR7 and TLR8 agonist, induces pro-inflammatory cytokines in macrophages ^[1] . CL097 induces NADPH oxidase priming, resulting in an increase of the fMLF-stimulated ROS production ^[2] . | |
| IC₅₀ & Target | TLR7 | TLR8 |
| In Vitro | 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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[2]

| | |
|------------------|---|
| Cell Line: | Neutrophils |
| Concentration: | 0, 0.5, 2.5, 5, and 10 µg/mL |
| Incubation Time: | Pretreated for 30 minutes |
| Result: | Induced phosphorylation of p47phox on specific sites in a concentration-dependent manner. |

In Vivo

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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|-----------------|--|
| Animal Model: | Female 8.3 NOD mice (5-6 weeks old) ^[3] |
| Dosage: | 5 mg/kg |
| Administration: | Injected s.c. |
| Result: | Caused a modest specific lysis of the target peptide (≈25%). |

REFERENCES

[1]. 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.

[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.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA