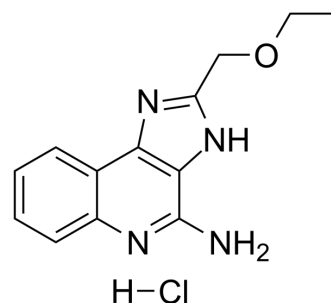


## CL097 hydrochloride

<b>Cat. No.:</b>	HY-128799A		
<b>Molecular Formula:</b>	C <sub>13</sub> H <sub>15</sub> ClN <sub>4</sub> O		
<b>Molecular Weight:</b>	278.74		
<b>Target:</b>	Toll-like Receptor (TLR); Reactive Oxygen Species		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (358.76 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		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		
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (8.97 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (8.97 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (8.97 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	CL097, a potent TLR7 and TLR8 agonist, induces pro-inflammatory cytokines in macrophages <sup>[1]</sup> . CL097 induces NADPH oxidase priming, resulting in an increase of the fMLF-stimulated ROS production <sup>[2]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	TLR7	TLR8
<b>In Vitro</b>	<p>CL097 induces activation of NF-κB at 0.1 μM in TLR7 transfected HEK293 cells and at 4 μM in TLR8-transfected HEK293 cells<sup>[1]</sup>.</p> <p>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</p>	

phosphorylation of p47phox on specific sites and enhances fMLF-induced p47phox phosphorylation<sup>[2]</sup>.

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

#### Western Blot Analysis<sup>[2]</sup>

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<sup>[3]</sup>.

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) <sup>[3]</sup>
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;18
- [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.**

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