CL097

Imidazoquinoline Compound - TLR7/8 ligand

Catalog # tlrl-c97, tlrl-c97-5

For research use only

Version # 12F13-MM

PRODUCT INFORMATION

Content:

• CL097 is provided lyophilized and is available in two quantities:
- 500 µg: tlrl-c97
- 5 mg: tlrl-c97-5
• sterile endotoxin-free water, 1.5 ml with #tlrl-c97 and 10 ml with #tlrl-c97-5

Storage:

- CL097 is provided as a pale yellow solid and shipped at room temperature. Store at -20˚C. Lyophilized product is stable 1 year at -20°C when properly stored.
- Upon resuspension, prepare aliquots of CL097 and store at -20°C. Resuspended product is stable 6 months at -20°C. Avoid repeated freeze-thaw cycles.

DESCRIPTION

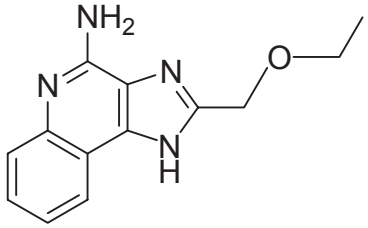
CL097 is a highly water-soluble derivative of the imidazoquinoline compound R848 (≥ 20 mg/ml). Similarly to R848, CL097 is a TLR7 and TLR8 ligand[1, 2]. It induces the activation of NF-κB at 0.4 µM (0.1 µg/ml) in TLR7-transfected HEK293 cells and at 4 µM (1 µg/ml) in TLR8-transfected HEK293 cells.

References

1 .Salio M. et al., 2007. Modulation of human natural killer T cell ligands on TLR-mediated antigen-presenting cell activation. PNAS 104: 20490 - 20495. **2. Butchi NJ. et al., 2008.** Analysis of the Neuroinflammatory Response to TLR7 Stimulation in the Brain: Comparison of Multiple TLR7 and/or TLR8 Agonists. J Immunol 180: 7604-7612. **3. Schindler U. & Baichwal VR., 1994.** Three NF-kB binding sites in the human E-selectin gene required for maximal tumor necrosis factor alpha-induced expression. Mol Cell Biol, 14(9):5820-5831.

Formula: $C_{13}H_{14}N_4O$

Molecular weight: 242.28



METHODS

Preparation of CL097 stock solution (1 mg/ml)

Stimulation of TLR7 can be achieved with 50 ng - 5 µg/ml CL097, and stimulation of TLR8 with 0.5 - 5 µg/ml CL097.
- Resuspend CL097 with sterile endotoxin-free water provided.
To obtain a 1 mg/ml stock solution:
- Add 500 µl to 500 µg vial
- Add 5 ml to 5 mg vial
- Vortex until complete solubilization.
- Prepare aliquots of CL097 and store at -20°C.

CL097 stimulation

Transfect your cell line with a pNiFty plasmid, an NF-κB reporter plasmid, i.e. a plasmid carrying a reporter gene such as SEAP or luciferase, under the control of an NF-κB-inducible ELAM-1 (E-selectin) promoter[3].

Note: InvivoGen provides pNiFty, a family of NF-κB-inducible reporter plasmids that can be transfected transiently (pNiFty) or stably (pNiFty2). pNiFty plasmids are available either with the SEAP or luciferase reporter genes (see Related Products).

- If your cell line does not naturally express TLR7 or TLR8, cotransfect with a TLR7 or TLR8 expressing plasmid, such as pUNO1-hTLR7 and pUNO1-hTLR8b.

Note: Alternatively, evaluate TLR7 or TLR8 activation using reporter cells, such as InvivoGen's HEK-Blue™ hTLR7 or hTLR8 cells which express the human TLR7 or TLR8 gene and a SEAP reporter gene. NF-κB production in these cells can be easily quantified using a SEAP detection medium, such as QUANTI-Blue™ or HEK-Blue™ Detection.

- Twenty-four to forty-eight hours after transfection, stimulate cells with 50 ng - 5 µg/ml CL097 for 6 to 24 hours.
- Determine CL097 stimulation on TLR7 or TLR8 by assessing reporter gene expression using the appropriate detection system.

RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ hTLR7 cells	hkb-htlr7
HEK-Blue™ hTLR8 cells	hkb-htlr8
pUNO1-hTLR7	puno1-htlr7
pUNO1-hTLR8b	puno1-htlr8b
pNiFty-Luc (Amp^R)	pnifty-luc
pNiFty-SEAP (Amp^R)	pnifty-seap
pNiFty2-Luc (Zeo^R)	pnifty2-luc
pNiFty2-SEAP (Zeo^R)	pnifty2-seap

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