Chloroquine
An inhibitor of endosomal acidification
Catalog # tlr1-chq
For research use only
Version # 16F01-MM

PRODUCT INFORMATION

Content
• 250 mg Chloroquine (diphosphate salt)

Storage and stability
- Chloroquine is shipped at room temperature. Store at room temperature (15-25°C). Protect from light. Product in powder form is stable for 6 months at room temperature when properly stored.
- Upon resuspension, chloroquine should be stored at 4°C. Reconstituted product is stable for 1 month at 4°C.

Quality control
• Purity: ≥98% (UHPLC)
• The absence of bacterial contamination (e.g. lipoproteins & endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION
Chloroquine is a lysosomotropic agent that prevents endosomal acidification\(^1\). It accumulates inside the acidic parts of the cell, including endosomes and lysosomes. This accumulation leads to inhibition of lysosomal enzymes that require an acidic pH, and prevents fusion of endosomes and lysosomes. Chloroquine is commonly used to study the role of endosomal acidification in cellular processes, such as the signaling of intracellular TLRs\(^2,3\).


CHEMICAL PROPERTIES

CAS number: 50-63-5
Synonym: N4-(7-Chloro-4-quinolinyl)-N1,N1-dimethyl-1,4-pentane diamine diphosphate salt
Formula: C\(_{18}\)H\(_{26}\)ClN\(_3\) •2H\(_3\)PO\(_4\)
Molecular weight: 515.86
Solubility: 50 mg/ml in water

METHOD

Preparation of stock solution (100 mM)
Inhibition of endosomal acidification can be achieved with 10-100 µM chloroquine.
- Add 4.8 ml water and vortex until completely dissolved.
- Filter sterilize and store at 4°C.

Inhibition of TLR signaling
- Add 10-100 µM of chloroquine to TLR-expressing cells, such as macrophages or HEK293 cells transfected with TLR genes.
- Incubate for 30 min at 37°C.
- Stimulate cells with the appropriate TLR ligand for 1 to 6 hours.
- Determine the inhibitory effect of chloroquine on TLR signaling by assessing reporter gene expression using the appropriate detection system.

RELATED PRODUCTS

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<tr>
<th>Product</th>
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<tr>
<td>pUNO1-hTLR3</td>
<td>punol-htlr3</td>
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<td>poly(I:C)</td>
<td>tlr1-pic</td>
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<td>Gardiquimod</td>
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<td>tlr1-2006</td>
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