Chloroquine Inhibitor

Catalog No: NBP2-29386
Content: 200 mg
Storage: The solid powder is stable in the desiccators at room temperature for 1 year. Water-reconstituted chloroquine solution is stable for up to 1 month at 4°C.
Species Reactivity: N/A
Form: Yellow Solid (Powder)
Inhibitor Mechanism: Endosomal toll-like receptor inhibitor (antagonist); Inhibitor of endosomal acidification on which functional activity of endosomal TLRs (particularly TLR9 and TLR3) is dependent.

Background
Chloroquine is a weak base which can partition into acidic vesicles such as endosomes and lysosomes, resulting in inhibition of endosomal acidification and lysosomal enzyme activity. Because acidic pH of endosomes is a prerequisite for endosomal TLR activation, chloroquine can serve as an antagonist for endosomal TLRs. Chloroquine and its analog quinacrine are also known to act as therapeutic agents for autoimmune diseases such as rheumatoid arthritis and systemic lupus erythematosus, of which therapeutic activity is due to suppression of TLR9 activity as shown by researchers.

Solubility
Deionized water

Usage:

Product Handling Protocol
1. To make 100 mM stock solution, dissolve 200 mg chloroquine in 3.9 ml water by gentle vortex.
2. Filter sterilize through a 0.22 µm filter.
3. Store at 4°C (Note: Chloroquine solution is light sensitive).
4. For TLR signaling inhibition study, perform a pilot inhibitory test with the different concentrations of chloroquine ranging from 1 to 10 mM to optimize your experiments.

Note: See our validation tests using the NBP2-26280 (chloroquine sensitive) and NBP2-26274 (chloroquine insensitive) cell lines as shown in Figures 1 and 2.
Reference:

