

Product Datasheet

TLR4 Inhibitor NBP2-31230

Unit Size: 1 mg

Store at -20C. Avoid freeze-thaw cycles.

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NBP2-31230

TLR4 Inhibitor

Product Information	
Unit Size	1 mg
Concentration	Lyoph
Storage	Store at -20C. Avoid freeze-thaw cycles.
Reconstitution Instructions	Please contact technical support for detailed reconstitution instructions.
Buffer	Lyophilized white powder
Product Description	
Gene ID	7099
Gene Symbol	TLR4
Species	Human, Mouse
Specificity/Sensitivity	TLR4 inhibitor and control peptides are quality controlled in vitro using the TLR4/MD-2/CD14/NF-kB/SEAP cell line with SEAP as a readout assay (Fig 3).
Immunogen	VIPER: A TLR4 Inhibitory Peptide: KYSEKLILAEYRRRRRRRRR (VIPER sequence: KYSEKLILAEY).
Preparation Method	Preparation of 5 mM VIPER Stock Solutions Note: Bring the peptides to room temperature and quick spin the tubes before opening the caps. VIPER: A final volume of 72 ul will make a 5 mM stock solution. Add 72 ul sterile H₂O to the tube of peptide. Carefully pipet to ensure all of the peptide is dissolved. The stock solutions may be diluted further to make working solutions. Dilute according to the needs for your assay. For example dilute 5 mM stock solutions 1:10 in sterile 1X PBS or cell culture media to make 500 uM working solutions. Working solutions should be made fresh daily and not stored.
Inhibitor Content	VIPER: A TLR4 Inhibitory Peptide: 1 mg (lyophilized) KYSEKLILAEYRRRRRRRRR (VIPER sequence: KYSEKLILAEY). Molecular weight: 2780.3
Product Application Details	
Applications	In vitro assay
Recommended Dilutions	In vitro assay

Application Notes

The inhibitor is used in assays to inhibit TLR4 activation; see to Lysakova-Devine et al (2010) for examples. Optimal inhibitor concentrations should be established through titration and may vary between model systems. We recommend an initial titration from 0-30 uM for in vitro assays. Control concentrations should mirror inhibitor concentrations. Inhibitor and control should be preincubated with cells prior to ligand activation to allow sufficient time for the peptides to enter from the media into the cell. We typically preincubate with inhibitor and control peptides for 2 h prior to TLR4 activation with LPS (Fig 3); however, optimal preincubation times may vary between model systems.

The TLR4/MD-2/CD14 stably transfected cell line is a useful positive control model system for studying inhibition of TLR4 activation by VIPER (Fig 3). SEAP is used as a readout assay in Figure 3 to measure TLR4 inhibition.

A novel model system is shown in Figure 1 where TLR4 inhibitor peptide, but not CP7, inhibited TLR4 activation in Mal-deficient immortalized mouse bone marrow-derived macrophages (iBMDMs). In these iBMDMs, the inhibitor targets TLR4-TRAM, but not TLR-Mal, interactions as Mal is not expressed. TNF-alpha is used as a readout assay in Figure 1 to measure inhibition.





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Products Related to NBP2-31230

NBP2-24821PEP	TLR4 Antibody Blocking Peptide
210-TA-005	TNF-alpha [Unconjugated]
NB100-56566	TLR4 Antibody (76B357.1) - BSA Free
M6000B-1	IL-6 [HRP]

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Inhibitors are guaranteed for 1 year from date of receipt.

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