# Active Toll Like Receptor 4 (TLR4)

*Catalog#:PEH12487*

## 概述（Summary）

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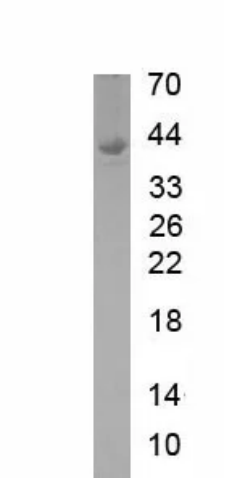
| **别称（Alternative Names）** | CD284; TOLL; HToll |
| **纯度（Purity）** | Greater than 95% as determined by reducing SDS-PAGE. |
| **内毒素（Endotoxin level）** | Please contact with the lab for this information |
| **蛋白构建（Construction）** | 【Phe326-Ile634】 |
| **Accession #** | O00206 |
| **表达宿主（Host）** | E.coli |
| **种属（Species）** | Homo sapiens (Human) |
| **预测分子量（Predicted MW）** | 42.0 kDa |
| **制剂（Form）** | Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300. |
| **运输方式（Shipping）** | The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below. |
| **稳定性&储存（Stability &Storage）** | 12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles. |
| **复溶（Reconstitution）** | Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex. |
| **背景介绍（References）** | Cooperates with LY96 and CD14 to mediate the innate immune response to bacterial lipopolysaccharide (LPS). Acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. Also involved in LPS-independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni(2+). Responses triggered by Ni(2+) require non-conserved histidines and are, therefore, species-specific. Both M.tuberculosis HSP70 (dnaK) and HSP65 (groEL-2) act via this protein to stimulate NF-kappa-B expression. In complex with TLR6, promotes sterile inflammation in monocytes/macrophages in response to oxidized low-density lipoprotein (oxLDL) |

or amyloid-beta 42. In this context, the initial signal is provided by oxLDL- or amyloid-beta 42-binding to CD36. This event induces the formation of a heterodimer of TLR4 and TLR6, which is rapidly internalized and triggers inflammatory response, leading to the NF-kappa-B-dependent production of CXCL1, CXCL2 and CCL9 cytokines, via MYD88 signaling pathway, and CCL5 cytokine, via TICAM1 signaling pathway, as well as IL1B secretion. Binds electronegative LDL (LDL(-)) and mediates the cytokine release induced by LDL(-). Stimulation of monocytes in vitro with M.tuberculosis PstS1 induces p38 MAPK and ERK1/2 activation primarily via TLR2, but also partially via this receptor. Activated by the signaling pathway regulator NMI which acts as damage-associated molecular patterns (DAMPs) in response to cell injury or pathogen invasion, therefore promoting nuclear factor NF-kappa-B activation.

## 电泳图（SDS-PAGE image）




Greater than 95% as determined by reducing SDS-PAGE.

## 活性图（Bioactivity image）

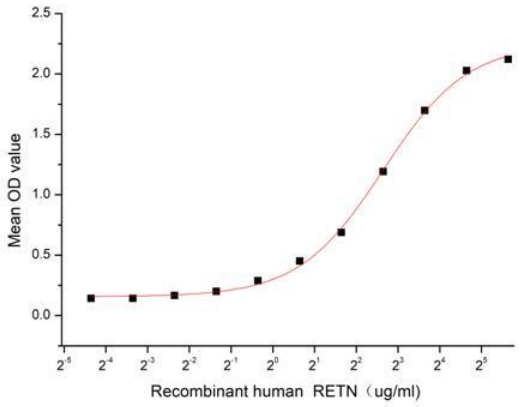



**Figure 1. The binding activity of recombinant human RETN with recombinant humanTLR4**

TLR4 is a 100 kDa type I transmembrane glycoprotein that belongs to the mammalian Toll-Like Receptor family of pathogen pattern recognition molecules. TLRs plays a fundamental role in pathogen recognition and activation of innate immunity. Besides, TLR4 is the receptor for LPS and plays a critical role in innate immunity. Stimulation of TLR4 activates proinflammatory pathways and induces cytokine expression in a variety of cell types. Inflammatory pathways are activated in tissues of obese animals and humans and play an important role in obesity-associated insulin resistance. It is reported that RETN has been identified as an interactor of TLR4, thus a binding ELISA assay was conducted to detect the interaction of recombinant human RETN and recombinant human TLR4. Briefly, RETN was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to TLR4-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-RETN pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of TLR4 and RETN was shown in Figure 1. When recombinant human TLR4 is lmmobilized at 2 ug/mL (100 uL/well), the concentration of rhRETN that produces 50% optimal binding response is found to be approximately 6.25 ug/mL.

## 注意事项（Note）

For Research Use Only , Not for Diagnostic Use.