Active Cluster Of Differentiation 14 (CD14)

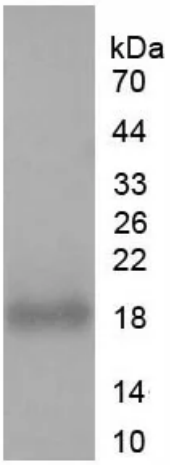
Catalog#:PEH12469

概述（Summary）

别称（Alternative Names）	Monocyte differentiation antigen CD14; Myeloid cell-specific leucine-rich glycoprotein
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Asp125-Leu288】
Accession #	P08571
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	18.6 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 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 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Coreceptor for bacterial lipopolysaccharide. In concert with LBP, binds to monomeric lipopolysaccharide and delivers it to the LY96/TLR4 complex, thereby mediating 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. Acts as a coreceptor for TLR2:TLR6 heterodimer in response to diacylated lipopeptides and for TLR2:TLR1 heterodimer in response to triacylated lipopeptides, these clusters trigger signaling from the cell surface and subsequently are targeted to the Golgi in a

lipid-raft dependent pathway. Binds electronegative LDL (LDL(-)) and mediates the cytokine release induced by LDL(-).

电泳图（SDS-PAGE image）



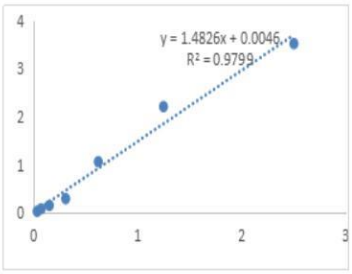
Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

Table 1. Effects of CD14 on IL8 production by THP1 cells.

Sample (cell supernatant of THP1 cells)	O.D. value	Corrected	Concentration of IL8 (ng/mL)
stimulated with LPS (1μg/mL) and rh CD14 （5μg/mL）	1.227	1.198	0.805
stimulatedwith LPS (1μg/mL) and rh CD14 （1μg/mL）	0.915	0.886	0.594
stimulatedwith LPS (1μg/mL)	0.89	0.861	0.578

Figure. The binding activity of CD14 with LBP. Cluster Of Differentiation 14 (CD14), also known as CD14, is a component of the innate immune system. CD14 acts as a co-receptor (along with the Toll-like receptor TLR 4 and MD-2) for the detection of bacterial lipopolysaccharide (LPS). CD14 can bind LPS only in the presence of lipopolysaccharide-binding protein (LBP). Although LPS is considered its main ligand, CD14 also recognizes other pathogen-associated molecular patterns such as lipoteichoic acid. Besides, Lipopolysaccharide Binding Protein (LBP) has been identified as an interactor of CD14, thus a binding ELISA assay was conducted to detect the interaction of recombinant human CD14 and recombinant human LBP. Briefly, CD14 were diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100μL were then transferred to LBP-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CD14 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of CD14 and LBP was shown in Figure 1, and this effect was in a dose dependent manner. CD14 also can enhance LPS-stimulated IL-8 secretion by THP-1 human acute monocytic leukemia cells. Therefore, THP1 cells were cultured in 24 well plates at a concentration of 106 cells/mL and stimulated by LPS (1μg/mL), then added of different concentrations of recombinant human CD14 (1μg/mL, 5μg/mL). After 24h later, the production of IL8 was determined in the supernatants by cytokine specific ELISA. Result: When the concentration of CD14 was 5μg/mL, the secretion LPS-stimulated IL-8 can be significantly increased. The standard curve was demonstrated as follows. Figure. Effects of CD14 on IL8 production by THP1 cells.



Concentration of IL8 (ng/mL)

STD (ng/mL)	O.D. value	Corrected
2.5	3.556	3.526
1.25	2.245	2.215
0.625	1.097	1.067
0.3125	0.329	0.299
0.15625	0.188	0.158
0.078125	0.117	0.087
0.0390625	0.065	0.035

注意事项（Note）

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