

Anti-CD14 Antibody Picoband™

Catalog Number: A00137

About Cd14

CD14 is a single-copy gene encoding 2 protein forms: a 50- to 55-kD glycosylphosphatidylinositol-anchored membrane protein (mCD14) and a monocyte or liver-derived soluble serum protein (sCD14) that lacks the anchor. This gene is located at bands 5q23-q31. The protein encoded by this gene is a surface antigen that is preferentially expressed on monocytes/macrophages. 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.

Overview

Product Name	Anti-CD14 Antibody Picoband™
Reactive Species	Mouse, Rat
Description	Boster Bio Anti-CD14 Antibody Picoband™ catalog # A00137. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Mouse, Rat.
Application	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Cd14: P10810

Technical Details

Immunogen	E. coli-derived mouse CD14 recombinant protein (Position: S16-A260).
Predicted Reactive Species	Chicken
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml</p> <p>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml</p> <p>Flow Cytometry, 1-3ug/1x10⁶ cells</p>

Anti-CD14 Antibody Picoband™ (A00137) Images

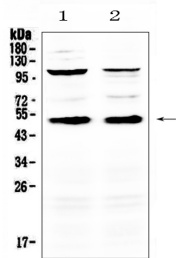


Figure 1. Western blot analysis of CD14 using anti-CD14 antibody (A00137).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: mouse thymus tissue lysates,

Lane 2: mouse spleen tissue lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CD14 antigen affinity purified polyclonal antibody (Catalog # A00137) at 0.5 ug/mL overnight at 4 then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CD14 at approximately 50KD. The expected band size for CD14 is at 40KD.

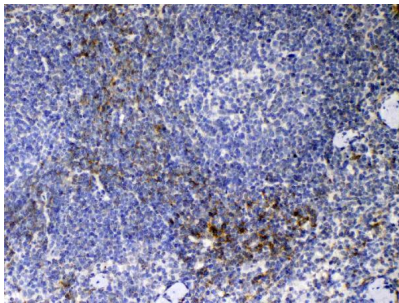


Figure 2. IHC analysis of CD14 using anti-CD14 antibody (A00137).

CD14 was detected in paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD14 Antibody (A00137) overnight at 4 Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

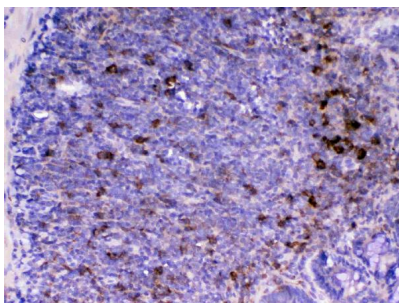
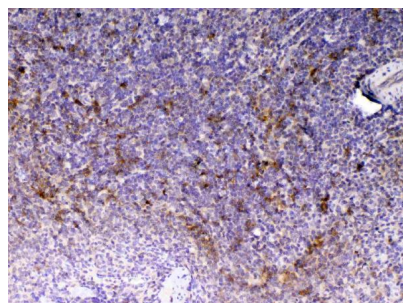


Figure 3. IHC analysis of CD14 using anti-CD14 antibody (A00137).

CD14 was detected in paraffin-embedded section of rat lymphaden tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD14 Antibody (A00137) overnight at 4 Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of CD14 using anti-CD14 antibody (A00137).



CD14 was detected in paraffin-embedded section of rat spleen tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD14 Antibody (A00137) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

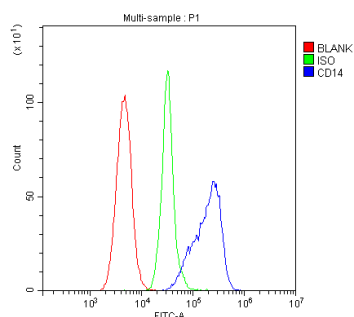


Figure 5. Flow Cytometry analysis of mouse PBMC cells using anti-CD14 antibody (A00137).

Overlay histogram showing mouse PBMC cells stained with A00137 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CD14 Antibody (A00137, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

6 Publications Citing This Product

1. PubMed ID: 31930698, Zhou Z, Liu F, Wang L, Zhu B, Chen Y, Yu Y, Wang X. Inflammation has synergistic effect with nicotine in periodontitis by up-regulating the expression of alpha7 nAChR via phosphorylated GSK-3beta. J Cell Mol Med. 2020 Feb;24(4):2663-2676. doi:10.1111/jcmm.14986. Epub 2020 Jan 13. PMID:31930698; PMCID:PMC7028870.
2. PubMed ID: 33500729, Shi M, Shen K, Yang B, Zhang P, Lv K, Qi H, Wang Y, Li M, Yuan Q, Zhang Y. An electroporation strategy to synthesize the membrane-coated nanoparticles for enhanced anti-inflammation therapy in bone infection. Theranostics. 2021 Jan 1;11(5):2349-2363. doi:10.7150/th
3. PubMed ID: 23346371, Huang J, Zhu C, Zhang P, Zhu Q, Liu Y, Zhu Z, Wang M, Li W, Yang G, Dong N, Liu J, Chen L, Zhang Y, Yang R, Deng L, Fan J, Wang X, Liu J, Ma B, Fu Q, Wu K. Sci Rep. 2013;3:1114. Doi: 10.1038/Srep01114. Epub 2013 Jan 23. S100+ Cells: A New Neuro-Im...

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