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antibody and ELISA experts

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Anti-Transferrin/TF Antibody Picoband®

Catalog Number: PB9827

About TF

Transferrins are iron-binding blood plasma glycoproteins that control the level of free iron in biological fluids. In humans, it is encoded by the TF gene. Transferrin consists of a polypeptide chain containing 679 amino acids in humans. The protein is composed of alpha helices and beta sheets to form two domains. The N- and C- terminal sequences are represented by globular lobes and between the two lobes is an iron-binding site. Transferrin is a glycoprotein that binds iron very tightly but reversibly. Although iron bound to transferrin is less than 0.1% (4 mg) of the total body iron, it is the most important iron pool, with the highest rate of turnover (25 mg/24 h). And Transferrin has a molecular weight of around 80 kDa and contains 2 specific high-affinity Fe (III) binding sites. The affinity of transferrin for Fe (III) is extremely high (1023 M−1 at pH 7.4) but decreases progressively with decreasing pH below neutrality.

Overview

Product Name	Anti-Transferrin/TF Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Transferrin/TF Antibody Picoband® catalog # PB9827. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
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	P02787

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human Transferrin, different from the related mouse and rat sequences by five amino acids.
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

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Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Flow Cytometry(Fixed), 1-3 ug/1x10^6 cells, Human

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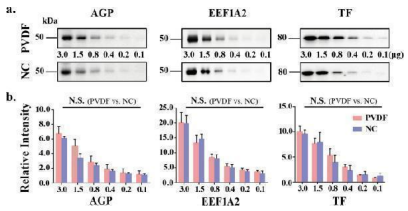
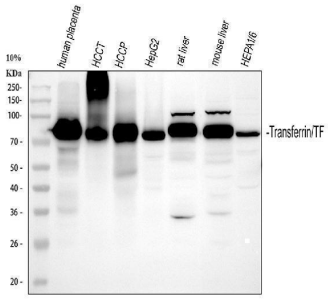
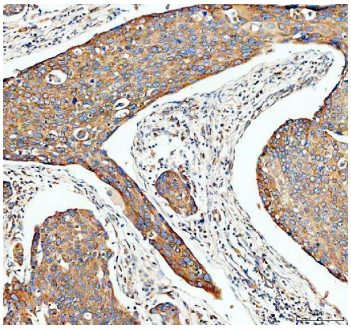
Anti-Transferrin/TF Antibody Picoband® (PB9827) Images



Comparison of the binding ability of PVDF membrane and NC membrane to medium molecular weight proteins. (a) The pooled sera proteins (0.1–3.0 ug) were subjected to 8% SDS-PAGE. The electroblotted membranes are PVDF membrane (up) and NC membrane (down), respectively. The membranes were incubated with anti-alpha-1-acid glycoprotein (AGP), anti-eukaryotic transformation extension factor 1 alpha 2 (EEF1A2) and anti-transferrin (TF) antibodies. (b) Staining intensities were statistically analyzed (n = 3 individual experiments). Pink bar, PVDF membrane; Blue bar, NC membrane. Band intensities were analyzed and compared using Image Lab software (Bio-Rad Laboratories) and GraphPad Prism version 6. N.S., not significant. All values are means ± S.E. (error bars). Index in PubMed under a CC BY license. PMID: 34103620



Western blot analysis of Transferrin using anti-Transferrin antibody (PB9827). 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 30 ug of sample under reducing conditions. Lane 1: human placenta tissue lysates, Lane 2: human hepatocellular carcinoma tumor tissue (HCCT) lysates, Lane 3: human hepatocellular carcinoma paracancerous tissue (HCCP) lysates, Lane 4: human HepG2 whole cell lysates, Lane 5: rat liver tissue lysates, Lane 6: mouse liver tissue lysates, Lane 7: mouse Hepa1/6 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-Transferrin antigen affinity purified polyclonal antibody (Catalog # PB9827) at 0.5 ug/mL overnight at 4°C, 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 1:5000 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 Transferrin at approximately 77 kDa. The expected band size for Transferrin is at 77 kDa.



IHC analysis of Transferrin using anti-Transferrin antibody (PB9827). Transferrin was detected in a paraffin-embedded section of human esophageal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Transferrin Antibody (PB9827) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

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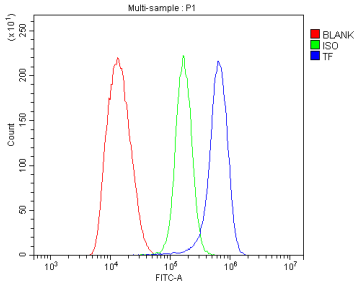

Flow Cytometry analysis of HepG2 cells using anti-Transferrin antibody (PB9827). Overlay histogram showing HepG2 cells stained with PB9827 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-Transferrin Antibody (PB9827, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

7 Publications Citing This Product

1. PubMed ID: 34103620, Xiang Y,Zheng Y,Liu S,Liu G,Li Z,Dong W.Comparison of the sensitivity of Western blotting between PVDF and NC membranes.Sci Rep.2021 Jun 8;11(1):12022.doi:10.1038/s41598-021-91521-8.PMID:34103620;PMCID:PMC8187435.

2. PubMed ID: 21823002, Zhu W, Lv Q, Chen H, Wang Z, Zhong Q. J Huazhong Univ Sci Technolog Med Sci. 2011 Aug;31(4):441-5. Doi: 10.1007/S11596-011-0470-8. Epub 2011 Aug 7. Protective Effect And Mechanism Of Sodium Tanshinone Ii A Sulfonate On Microcirculatory Disturbance...

3. PubMed ID: 26617772, MCPIP is induced by cholesterol and participated in cholesterol-caused DNA damage in HUVEC

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