BOSTER
antibody and ELISA experts

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Anti-Transferrin/TF Antibody Picoband®

Catalog Number: RP1022

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. In humans, transferrin consists of a polypeptide chain containing 679 amino acids. 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). 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 catalog # RP1022. Tested in ELISA, 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	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
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	Oryza sativa-derived human Transferrin recombinant protein (Position: V20-P698).
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, Mouse Flow Cytometry(Fixed), 1-3 ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, -

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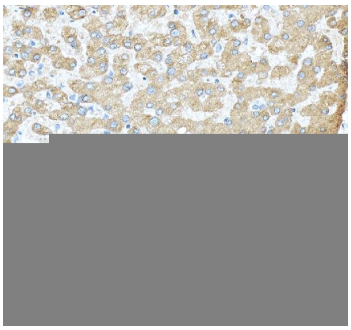
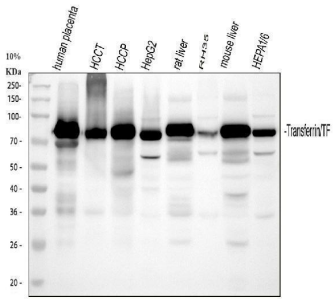
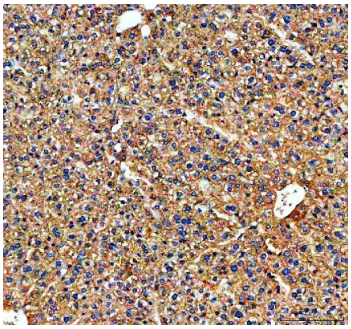
Anti-Transferrin/TF Antibody Picoband® (RP1022) Images



IHC analysis of Transferrin/TF using anti-Transferrin/TF antibody (RP1022). Transferrin/TF was detected in a paraffin-embedded section of human liver 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/TF Antibody (RP1022) 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.



Western blot analysis of Transferrin/TF using anti-Transferrin/TF antibody (RP1022). 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: rat RH-35 whole cell lysates, Lane 7: mouse liver tissue lysates, Lane 8: 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/TF antigen affinity purified polyclonal antibody (Catalog # RP1022) 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/TF at approximately 77 kDa. The expected band size for Transferrin/TF is at 77 kDa.



IHC analysis of Transferrin/TF using anti-Transferrin/TF antibody (RP1022). Transferrin/TF was detected in a paraffin-embedded section of mouse liver 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/TF Antibody (RP1022) 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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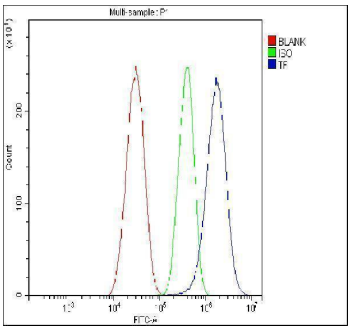

Flow Cytometry analysis of HepG2 cells using anti-Transferrin/TF antibody (RP1022). Overlay histogram showing HepG2 cells stained with RP1022 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-Transferrin/TF Antibody (RP1022, 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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