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Anti-Beta 2 Microglobulin B2M Antibody Picoband™ (monoclonal, 2H10)

Catalog Number: M00456-2

About B2M

Beta-2 microglobulin also known as B2M is a component of MHC class I molecules, which are present on all nucleated cells (excludes red blood cells). In humans, the beta-2-microglobulin protein is encoded by the B2M gene. The protein has a predominantly beta-pleated sheet structure that can form amyloid fibrils in some pathological conditions. The encoded antimicrobial protein displays antibacterial activity in amniotic fluid. A mutation in this gene has been shown to result in hypercatabolic hypoproteinemia.

Overview

Product Name	Anti-Beta 2 Microglobulin B2M Antibody Picoband™ (monoclonal, 2H10)
Reactive Species	Human, Monkey
Description	Boster Bio Anti-Beta 2 Microglobulin B2M Antibody Picoband™ (monoclonal, 2H10) catalog # M00456-2. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Monkey.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Monoclonal 2H10
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg 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	Mouse
Uniprot ID	P61769

Technical Details

Immunogen	E.coli-derived human Beta 2 Microglobulin recombinant protein (Position: Q22-M119). Human Beta 2 Microglobulin shares 69.4% and 74.5% amino acid (aa) sequence identity with mouse and rat Beta 2 Microglobulin, respectively.
Predicted Reactive Species	Hepatitis Virus
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized

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Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml Immunocytochemistry/Immunofluorescence, 2ug/ml Flow Cytometry, 1-3ug/1x10^6 cells

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Anti-Beta 2 Microglobulin B2M Antibody Picoband™ (monoclonal, 2H10) (M00456-2) Images

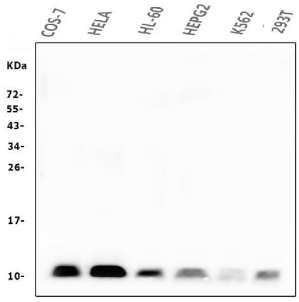

Figure 1. Western blot analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: COS-7 whole cell lysates,
Lane 2: HELA whole cell lysates,
Lane 3: HL-60 whole cell lysates,
Lane 4: HEPG2 whole cell lysates,
Lane 5: K562 whole cell lysates,
Lane 6: 293T whole cell 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 mouse anti-Beta 2 Microglobulin antigen affinity purified monoclonal antibody (Catalog # M00456-2) 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-mouse 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 # EK1001) with Tanon 5200 system. A specific band was detected for Beta 2 Microglobulin at approximately 12KD. The expected band size for Beta 2 Microglobulin is at 12KD.

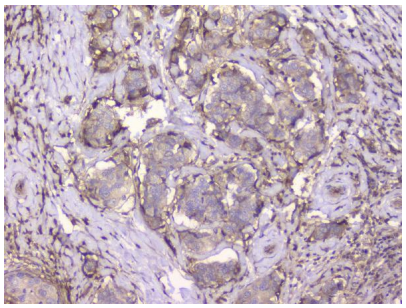

Figure 2. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Beta 2 Microglobulin Antibody (M00456-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

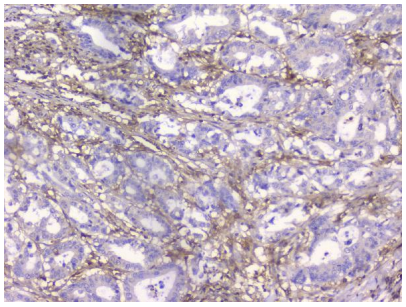

Figure 3. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Beta 2 Microglobulin Antibody (M00456-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with

DAB as the chromogen.

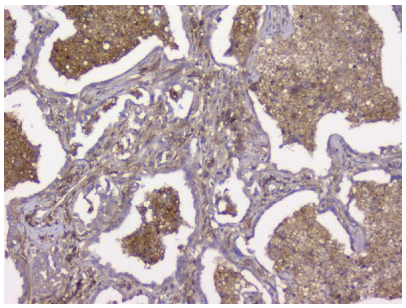

Figure 4. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Beta 2 Microglobulin Antibody (M00456-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

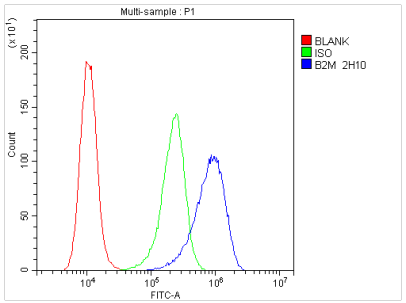

Figure 5. Flow Cytometry analysis of A431 cells using anti-Beta 2 Microglobulin antibody (M00456-2).
Overlay histogram showing A431 cells stained with M00456-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Beta 2 Microglobulin Antibody (M00456-2,1ug/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10ug/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1ug/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

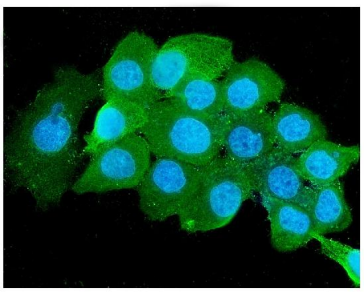

Figure 6. IF analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL mouse anti-Beta 2 Microglobulin Antibody (M00456-2) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.