10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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

Catalog # ABO14818

Specification

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

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	P61769
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Human, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-Beta 2 Microglobulin B2M Antibody Picoband™ (monoclonal, 2H10) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Monkey.

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

Gene ID 567

Other Names
Beta-2-microglobulin, Beta-2-microglobulin form pI 5.3, B2M (HGNC:914)

Calculated MW
12 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml
 Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml
 Immunocytochemistry/Immunofluorescence, 2 µg/ml
 Flow Cytometry, 1-3 µg/1x10^6 cells

Subcellular Localization
Secreted

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

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.

Cross Reactivity
No cross-reactivity with other proteins.

Storage	**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.**

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

Name B2M (HGNC:914)

Function
Component of the class I major histocompatibility complex (MHC). Involved in the presentation of peptide antigens to the immune system. Exogenously applied M.tuberculosis EsxA or EsxA-EsxB (or EsxA expressed in host) binds B2M and decreases its export to the cell surface (total protein levels do not change), probably leading to defects in class I antigen presentation (PubMed:25356553).

Cellular Location
Secreted. Cell surface. Note=Detected in serum and urine (PubMed:1336137, PubMed:7554280). {ECO:0000269|PubMed:7554280, ECO:0000269|Ref.6}

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

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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

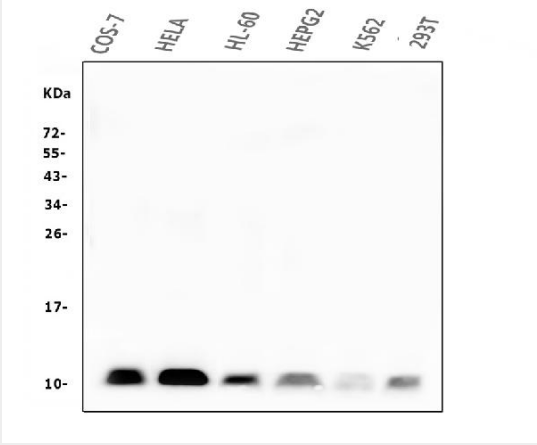

Figure 1. Western blot analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).

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 µg/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.

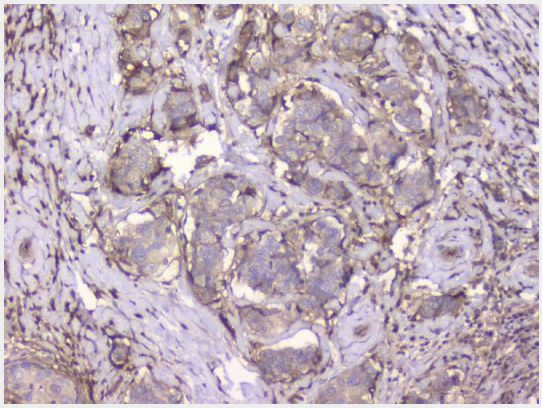

Figure 2. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/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.

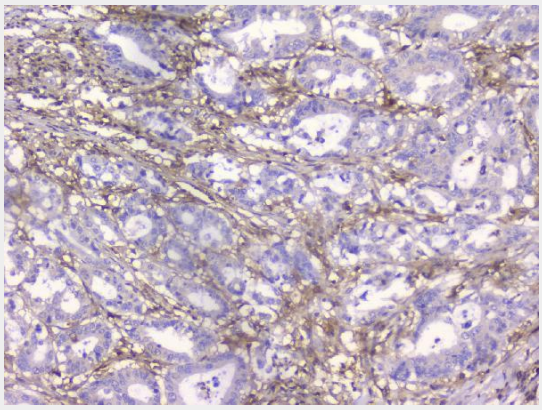

Figure 3. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody

(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 1 µg/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.

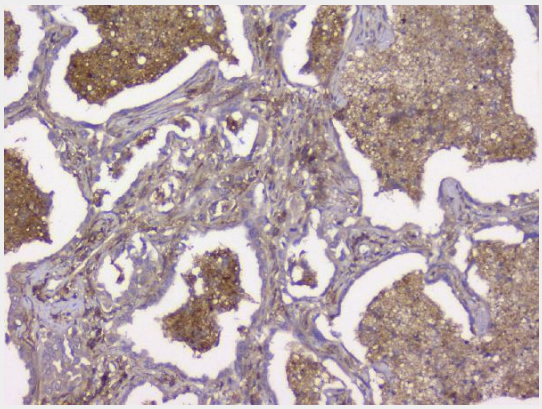

Figure 4. IHC analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2).
Beta 2 Microglobulin was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/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.

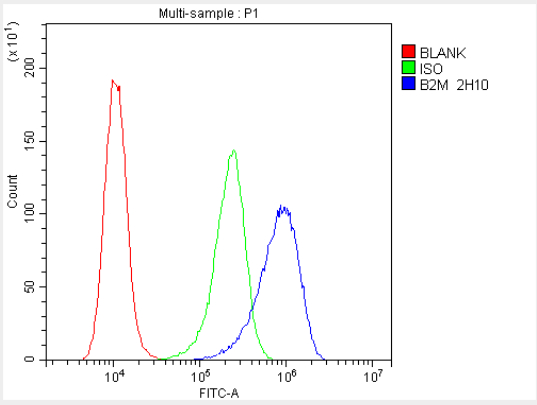

Figure 5. Flow Cytometry analysis of A431 cells using anti-Beta 2 Microglobulin antibody (M00456-2).
Overlay histogram showing A431 cells stained with M00456-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Beta 2 Microglobulin Antibody (M00456-2,1 µg/1x10^6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

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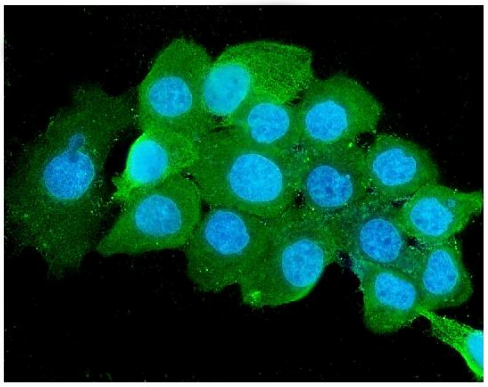

Figure 6. IF analysis of Beta 2 Microglobulin using anti-Beta 2 Microglobulin antibody (M00456-2). Beta 2 Microglobulin was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/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.

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

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.