abcam

ab21899

Biotin Anti-beta 2 Microglobulin antibody [B2M-01]

Anti-beta 2 Microglobulin antibody [B2M-01] conjugated to Biotin - suitable for flow cytometry, IHC-P, and reacts with human samples. Clone [B2M-01] is a mouse monoclonal antibody.

Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	Biotin
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human B2M. Database link P61769
Clone number	B2M-01
Purification technique	Affinity purification Protein A
Specificity	This antibody reacts with beta 2 Microglobulin associated with cell-surface MHC Class I molecules and other membrane antigens as well as with soluble beta 2 Microglobulin.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Not recommended

Species	Mouse, Chicken, Dog, Cow, Rabbit
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Not recommended

Species	Mouse, Chicken, Dog, Cow, Rabbit
Dilution info	-
Notes	-

Target data

See full target information B2M

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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Beta-2-Microglobulin (B2M) is a component of the class I major histocompatibility complex (MHC I) and plays an important role in presenting peptides to the immune system. B2M weighs approximately 11.8 kDa and is found abundantly in all nucleated cells. It has alternate names such as B2 microglobulin or beta-2-microglobulin. This protein is present in the cell membrane as a part of the MHC I which is important for immune surveillance. Additionally B2M is detectable in various biological fluids including serum and its levels can reflect physiological and pathological states.
Biological function summary	Beta-2-microglobulin is important for the stability and transport of MHC class I molecules to the cell surface. As part of the MHC class I complex B2M assists in binding peptides allowing immune cells to identify and target pathogen-infected cells. Without B2M the MHC class I molecules are not properly expressed on the cell surface disrupting immune recognition. In laboratory settings researchers often use anti-beta-2-microglobulin antibodies to investigate its role in MHC class I function.
Pathways	Beta-2-microglobulin interacts significantly with the immune system most notably in the antigen processing and presentation pathway. It works alongside proteins such as the heavy chain of MHC class I. B2M is important in the pathway that involves the transport of antigens to the endoplasmic reticulum where they are loaded onto MHC class I molecules for inspection by cytotoxic T cells. Another related pathway is the tapasin-mediated processing of antigen peptides highlighting the indispensable role of B2M in immune response regulation.
Associated diseases and disorders	Beta-2-microglobulin is associated with conditions such as beta-2-microglobulin amyloidosis and certain lymphoproliferative disorders. Elevated levels of B2M in serum serve as a marker for diseases like multiple myeloma where the protein level correlates with disease severity. B2M-related amyloidosis frequently occurs in patients undergoing long-term dialysis where amyloid deposits accumulate in tissues. Linking B2M to immune system dysfunction studies have shown interactions with other proteins including components of the immune system like HLA-A and HLA-B highlighting B2M's relevance in diagnosing and understanding these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

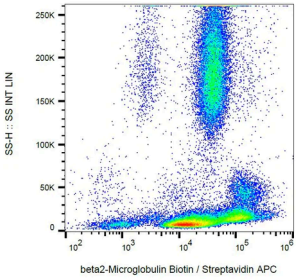
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2 product images

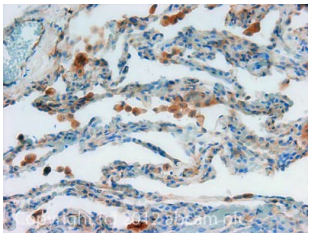


Flow Cytometry - Biotin Anti-beta 2 Microglobulin antibody [B2M-01] (ab21899)

Beta 2 Microglobulin Flow Cytometry staining using mouse Anti-beta 2 Microglobulin antibody

Flow cytometry analysis using anti-beta2 microglobulin (B2M-01) biotin for surface staining of beta2-microglobulin in human peripheral blood

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Biotin Anti-beta 2 Microglobulin antibody [B2M-01] (ab21899)

Beta 2 Microglobulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-beta 2 Microglobulin antibody

IHC image of beta 2 Microglobulin staining in human normal lung formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol B. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab21899, 10µg/ml, for 15 mins at room temperature and detected using an HRP conjugated ABC system. DAB was

used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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