abcam

ab187602

Alexa Fluor® 647 Anti-beta 2 Microglobulin antibody [B2M01]

Anti-beta 2 Microglobulin antibody [B2M01] conjugated to Alexa Fluor® 647 - suitable for flow cytometry, ICC/IF, and reacts with human samples. Clone [B2M01] is a mouse monoclonal antibody.

Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
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	B2M01
Purification technique	Size-exclusion chromatography
Specificity	ab187602 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

ICC/IF

Tested

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

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

Flow Cyt

Tested

Species	Human
Dilution info	1-5 µg/mL
Notes	-

Not recommended

Species	Transfected cell line - Human, 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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

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

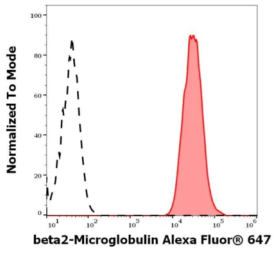
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

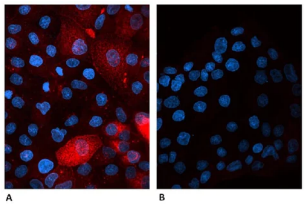
2 product images



Flow Cytometry - Alexa Fluor® 647 Anti-beta 2 Microglobulin antibody [B2M01] (ab187602)

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

Flow Cytometry analysis of lymphocytes stained using ab187602 (red) at 5µg/ml, separated from unstained lymphocytes (black-dashed).



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-beta 2 Microglobulin antibody [B2M01] (ab187602)

Beta 2 Microglobulin Immunocytochemistry/ Immunofluorescence staining using mouse Anti-beta 2 Microglobulin antibody

Immunocytochemistry/ Immunofluorescence of Human beta 2 Microglobulin-transfected canine cells labeled A) with ab187602 and B) with Alexa Fluor® 647 conjugated Mouse IgG2a Isotype Control. Cells were fixed with 4% PFA and permeabilized with 0.1% PBS-Tween20 containing 2% BSA. Antibody concentration 2µg/ml.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.