

Product datasheet

Anti-beta 2 Microglobulin antibody [EPR21752-214] ab218230

KO VALIDATED Recombinant RabMAb

★★★★☆ 2 Abreviews 4 References 9 Images

Overview

Product name	Anti-beta 2 Microglobulin antibody [EPR21752-214]
Description	Rabbit monoclonal [EPR21752-214] to beta 2 Microglobulin
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P, IP, Flow Cyt (Intra)
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Full length native protein (purified). This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa, Jurkat and HepG2 cell lysate; Mouse serum and plasma; Rat serum and plasma; Human plasma; Human skin, kidney and liver lysate, Wild-type HEK-293T cell lysate. IHC-P: Human spleen and kidney tissue. Flow Cyt (intra): HeLa and HepG2 cells. IP: HeLa cell lysate.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	<p>pH: 7.2</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: PBS, 40% Glycerol, 0.05% BSA</p>
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR21752-214
Isotype	IgG

Applications

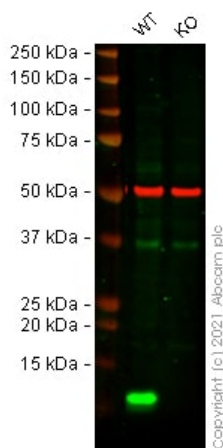
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab218230 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000. Detects a band of approximately 12 kDa (predicted molecular weight: 14 kDa).
IHC-P	★★★★★ (2)	1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IP		1/30.
Flow Cyt (Intra)		1/50.

Target

Function	Component of the class I major histocompatibility complex (MHC). Involved in the presentation of peptide antigens to the immune system.
Involvement in disease	Defects in B2M are the cause of hypercatabolic hypoproteinemia (HYCATHYP) [MIM:241600]. Affected individuals show marked reduction in serum concentrations of immunoglobulin and albumin, probably due to rapid degradation. Note=Beta-2-microglobulin may adopt the fibrillar configuration of amyloid in certain pathologic states. The capacity to assemble into amyloid fibrils is concentration dependent. Persistently high beta(2)-microglobulin serum levels lead to amyloidosis in patients on long-term hemodialysis.
Sequence similarities	Belongs to the beta-2-microglobulin family. Contains 1 Ig-like C1-type (immunoglobulin-like) domain.
Post-translational modifications	Glycation of Ile-21 is observed in long-term hemodialysis patients.
Cellular localization	Secreted. Detected in serum and urine.

Images



Western blot - Anti-beta 2 Microglobulin antibody
[EPR21752-214] (ab218230)

All lanes : Anti-beta 2 Microglobulin antibody [EPR21752-214]
(ab218230) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate

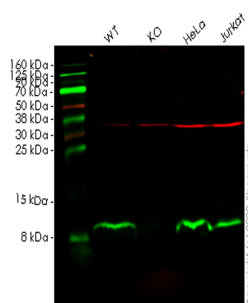
Lane 2 : B2M knockout HEK-293T cell lysate

Performed under reducing conditions.

Predicted band size: 14 kDa

Observed band size: 12 kDa

False colour image of Western blot: Anti-beta 2 Microglobulin antibody [EPR21752-214] staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] ([ab7291](#)) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab218230 was shown to bind specifically to beta 2 Microglobulin. A band was observed at 12 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in B2M knockout cell line [ab266828](#) (knockout cell lysate [ab256845](#)). To generate this image, wild-type and B2M knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ([ab216776](#)) at 1/20000 dilution.



Western blot - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

All lanes : Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230) at 1/500 dilution

Lane 1 : Wild-type HepG2 cell lysate

Lane 2 : B2M knockout HepG2 cell lysate

Lane 3 : HeLa cell lysate

Lane 4 : Jurkat cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

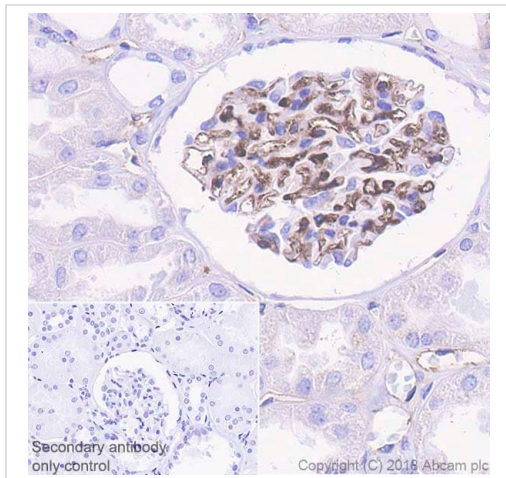
All lanes : Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) at 1/10000 dilution

Predicted band size: 14 kDa

Observed band size: 14 kDa

Lanes 1-4: Merged signal (red and green). Green - ab218230 observed at 14 kDa. Red - loading control **ab8245** observed at 36 kDa.

ab218230 Anti-beta 2 Microglobulin antibody [EPR21752-214] was shown to specifically react with beta 2 Microglobulin in wild-type HepG2 cells. Loss of signal was observed when knockout cell line **ab262325** (knockout cell lysate **ab256846**) was used. Wild-type and beta 2 Microglobulin knockout samples were subjected to SDS-PAGE. ab218230 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

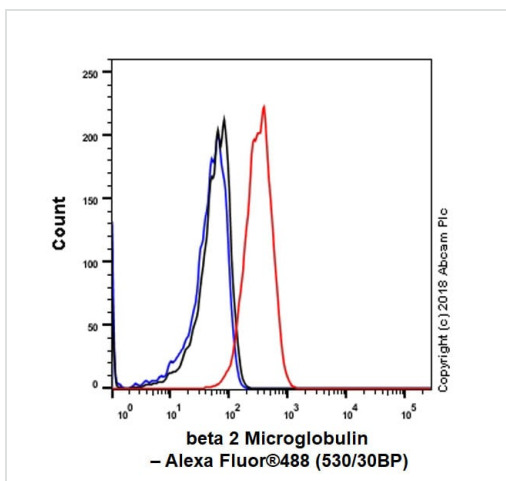


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling beta 2 Microglobulin with ab218230 at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP) secondary antibody. Positive staining on endothelial cells of human kidney is observed. Counter stained with Hematoxylin.

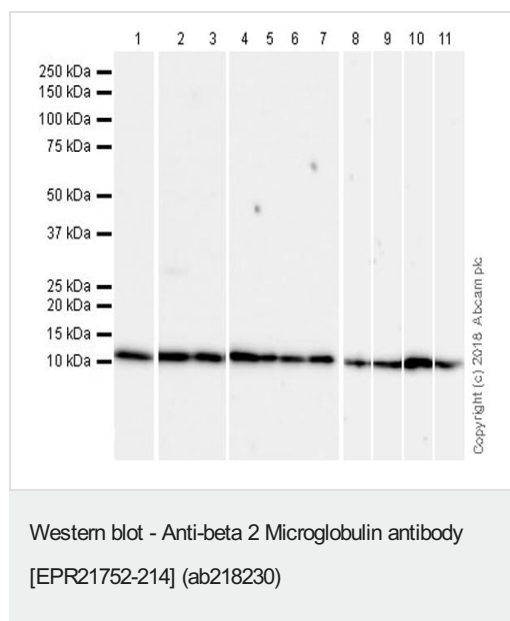
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HepG2 (human liver hepatocellular carcinoma cell line) cell line labeling beta 2 Microglobulin with ab218230 at 1/500 dilution (red) compared with a Rabbit monoclonal IgG - Isotype control (**ab172730**) (black) and an unlabeled control cells incubated with secondary antibody only (blue). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**), at 1/2000 dilution was used as the secondary antibody.



All lanes : Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230) at 1/1000 dilution

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate

Lane 2 : Jurkat (human T cell leukemia T lymphocyte), whole cell lysate

Lane 3 : HepG2 (human liver hepatocellular carcinoma cell line) cell lysate

Lane 4 : Mouse serum

Lane 5 : Mouse plasma

Lane 6 : Rat serum

Lane 7 : Rat plasma

Lane 8 : Human plasma

Lane 9 : Human skin lysate

Lane 10 : Human kidney lysate

Lane 11 : Human liver lysate

Lysates/proteins at 10 µg per lane.

Secondary

Lanes 1-3 : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

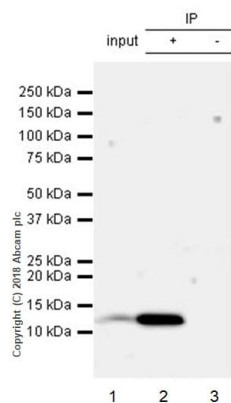
Lanes 4-11 : VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) at 1/1000 dilution

Predicted band size: 14 kDa

Blocking/diluting buffer and concentration: 5% NFDM/TBST.

Exposure times: Lane 1: 6 seconds; Lane 2-3: 37 seconds; Lane 4-7: 48 seconds; Lane 8-11: 3 minutes.

Lanes 4-11: This blot was developed using a higher sensitive ECL substrate.



Immunoprecipitation - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Beta 2 Microglobulin was immunoprecipitated from 0.35 mg HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab218230 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab218230 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)), was used for detection at 1/5000 dilution.

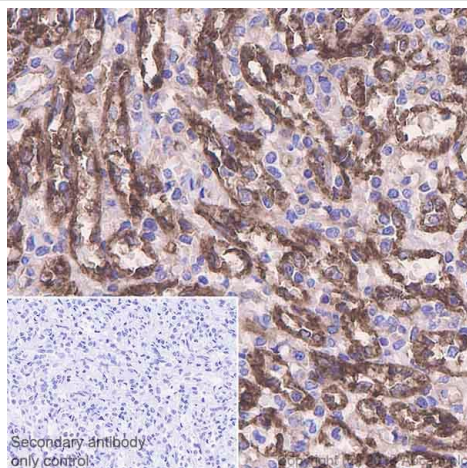
Lane 1: HeLa whole cell lysate 10 µg (Input).

Lane 2: ab218230 IP in HeLa whole cell lysate (+).

Lane 3: Rabbit monoclonal IgG ([ab172730](#)) instead of ab218230 in HeLa whole cell lysate (-).

Blocking/Dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

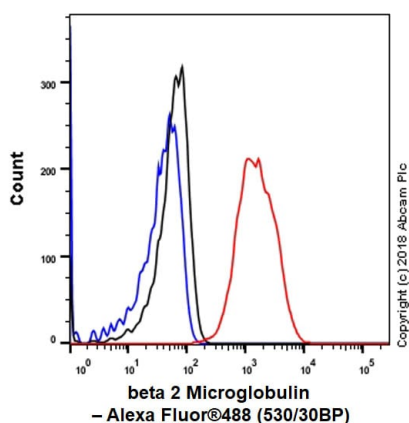


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Immunohistochemical analysis of paraffin-embedded human spleen tissue labeling beta 2 Microglobulin with ab218230 at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP) secondary antibody. Positive staining on endothelial cells of human spleen is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

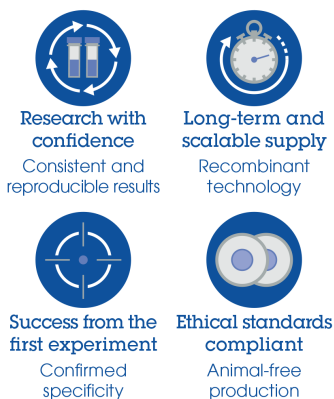
Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling beta 2 Microglobulin with ab218230 at 1/50 dilution (red) compared with a Rabbit monoclonal IgG - Isotype control (**ab172730**) (black) and an unlabeled control (cells incubated with secondary antibody only) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**), at 1/2000 dilution was used as the secondary antibody.

Flow Cytometry (Intracellular) - Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Why choose a recombinant antibody?



Anti-beta 2 Microglobulin antibody [EPR21752-214] (ab218230)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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