Anti-Beta-2 Microglobulin Antibody [SU35-05] ET1608-45

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell
Molecular Wt:	Predicted band size: 14 kDa
Clone number:	SU35-05

Description: β2 microglobulin also known as B2M is a component of MHC class I molecules, MHC class I molecules have α1, α2, and α3 proteins which are present on all nucleated cells (excludes red blood cells). In humans, the β2 microglobulin protein is encoded by the B2M gene. β2 microglobulin associates not only with the alpha chain of MHC class I molecules, but also with class I-like molecules such as CD1 (5 genes in humans), MR1, the neonatal Fc receptor (FcRn), and Qa-1 (a form of alloantigen). Nevertheless, the β2 microglobulin gene is outside of the MHC (HLA) locus, on a different chromosome. An additional function is association with the HFE protein, together regulating the expression of hepcidin in the liver which targets the iron transporter ferroportin on the basolateral membrane of enterocytes and cell membrane of macrophages for degradation resulting in decreased iron uptake from food and decreased iron release from recycled red blood cells in the MPS (mononuclear phagocyte system) respectively. Loss of this function causes iron excess and hemochromatosis. In cytomegalovirus infection, a viral protein binds to β2 microglobulin, preventing assembly of MHC class I molecules and their transport to the plasma membrane.

Immunogen: Synthetic peptide within C-terminal human beta 2 Microglobulin.

Positive control: Mouse spleen tissue lysate, mouse liver tissue lysate, rat spleen tissue lysate, rat liver tissue lysate, Raji cell lysate, U937 cell lysate, Hela, A431.

Subcellular location: Secreted.

Database links: SwissProt: P61769 Human | P01887 Mouse | P07151 Rat

Recommended Dilutions:

WB	1:1,000-1:5,000
IF-Cell	1:50-1:200

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

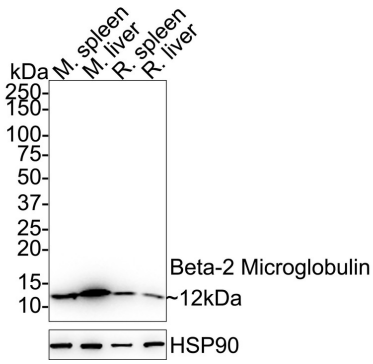

Fig1: Western blot analysis of Beta-2 Microglobulin on different lysates with Rabbit anti-Beta-2 Microglobulin antibody (ET1608-45) at 1/5,000 dilution.

Lane 1: Mouse spleen tissue lysate
Lane 2: Mouse liver tissue lysate
Lane 3: Rat spleen tissue lysate
Lane 4: Rat liver tissue lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 14 kDa
Observed band size: 12 kDa

Exposure time: 1 minute 2 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1608-45) at 1/5,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

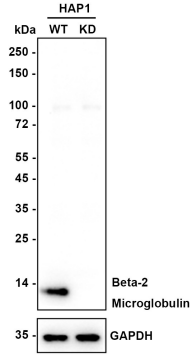

Fig2: Western blot analysis of Beta-2 Microglobulin on different lysates with Rabbit anti-Beta-2 Microglobulin antibody (ET1608-45) at 1/5,000 dilution.

Lane 1: HAP1-parental cell lysate
Lane 2: HAP1-Beta-2 Microglobulin KD cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 12 kDa
Observed band size: 12 kDa

Exposure time: 62 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1608-45) at 1/5,000 dilution was used in K1803 at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

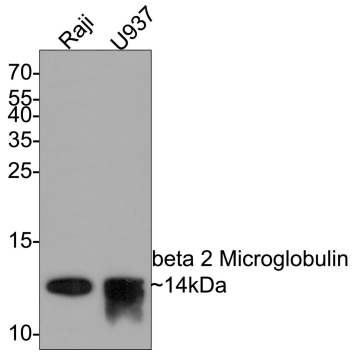

Fig3: Western blot analysis of Beta-2 Microglobulin on different lysates with Rabbit anti-Beta-2 Microglobulin antibody (ET1608-45) at 1/500 dilution.

Lane 1: Raji cell lysate
Lane 2: U937 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 14 kDa
Observed band size: 14 kDa

Exposure time: 2 minutes;

15% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1608-45) at 1/500 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

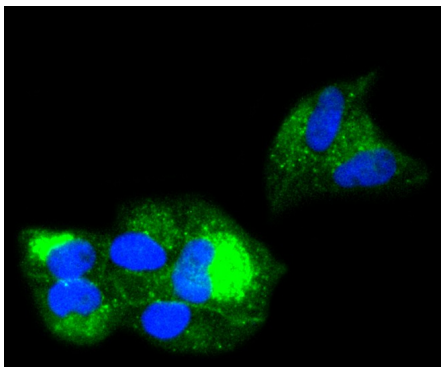

Fig4: ICC staining of Beta-2 Microglobulin in Hela cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1608-45, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

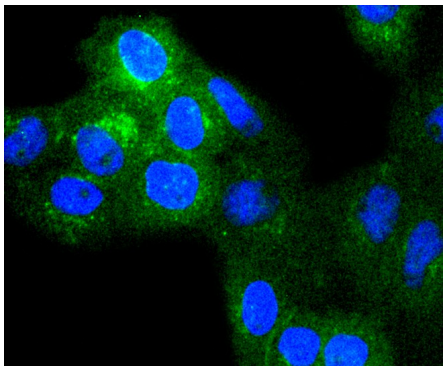

Fig5: ICC staining of Beta-2 Microglobulin in A431 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1608-45, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

Background References

1. Yousef H et al. Systemic attenuation of the TGF- pathway by a single drug simultaneously rejuvenates hippocampal neurogenesis and myogenesis in the same old mammal. Oncotarget 6:11959-78 (2015).
2. Sabnis H et al. Capillary nano-immunoassay for Akt 1/2/3 and 4EBP1 phosphorylation in acute myeloid leukemia. J Transl Med 12:166 (2014).