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B2M Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1895a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P61769
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3G5H8
Isotype	IgG2a
Calculated MW	13715
Description	This gene encodes a serum protein found in association with the major histocompatibility complex (MHC) class I heavy chain on the surface of nearly all nucleated cells. The protein has a predominantly beta-pleated sheet structure that can form amyloid fibrils in some pathological conditions. A mutation in this gene has been shown to result in hypercatabolic hypoproteinemia.
Immunogen	Purified recombinant fragment of human B2M (AA: 21-100) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	567
Other Names	Beta-2-microglobulin, Beta-2-microglobulin form pI 5.3, B2M
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	B2M Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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}

Background

The protein encoded by this gene is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit is one of the gamma regulatory subunits of AMPK. Alternatively spliced transcript variants encoding distinct isoforms have been observed. ;

References

1. Cancer Immunol Immunother. 2012 Sep;61(9):1359-71. 2. Lupus. 2012 Sep;21(10):1098-104.

Images

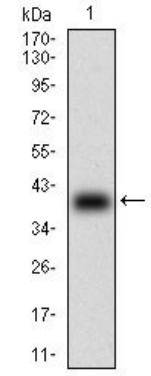


Figure 1: Western blot analysis using B2M mAb against human B2M (AA: 21-100) recombinant protein. (Expected MW is 35.4 kDa)

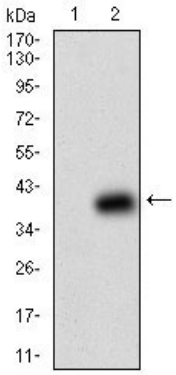
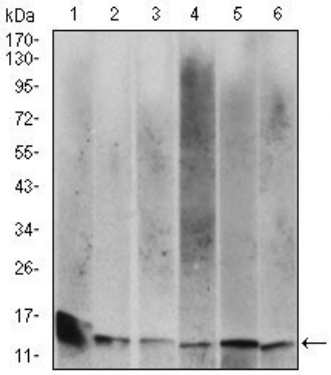


Figure 2: Western blot analysis using B2M mAb against HEK293 (1) and B2M (AA: 21-100)-hIgGFc transfected HEK293 (2) cell lysate.

Figure 3: Western blot analysis using B2M mouse mAb against Hela (1), HEK293 (2), HepG2 (3),RAJI (4), A431 (5) and Jurkat (6) cell lysate.



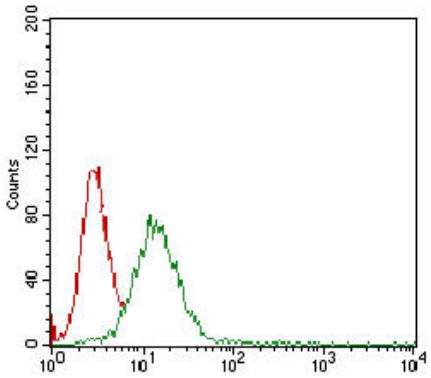


Figure 4: Flow cytometric analysis of A431 cells using B2M mouse mAb (green) and negative control (red).

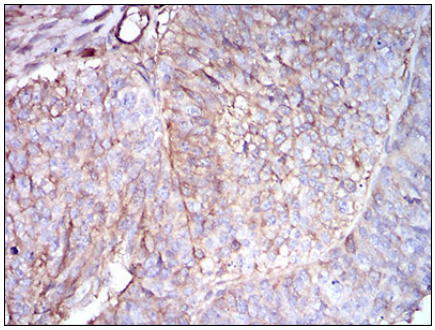


Figure 5: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using B2M mouse mAb with DAB staining.

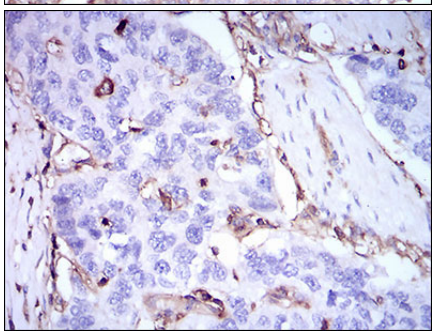


Figure 6: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using B2M mouse mAb with DAB staining.