

Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker [clone BBM.1] (V2802)

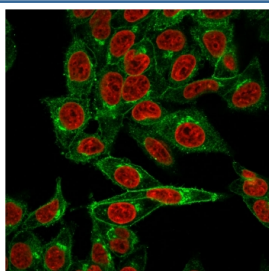
Catalog No.	Formulation	Size
V2802-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2802-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2802SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug



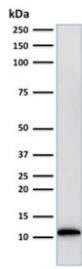
Citations (11)

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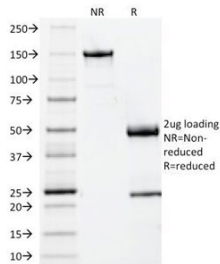
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	BBM.1
Purity	Protein G affinity chromatography
UniProt	P61769
Localization	Cytoplasmic
Applications	Flow Cytometry : 1-2ug/million cells Western Blot : 2-4ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker is available for research use only.



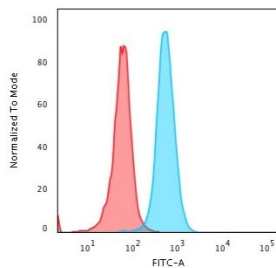
Beta-2 Microglobulin Antibody BBM.1 in HeLa Cervical Cancer Cells IF.
Immunofluorescence staining of permeabilized human HeLa cervical cancer cells with Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker (green) and Reddot nuclear stain (red). The observed fluorescent staining demonstrates beta-2 microglobulin detection in HeLa cells by IF.



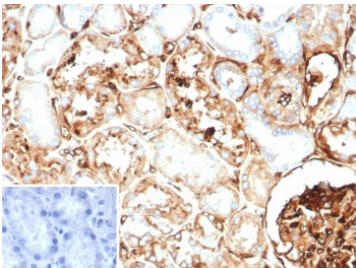
Beta-2 Microglobulin Antibody BBM.1 in Raji B Lymphocytes WB. Western blot testing of human Raji B lymphocyte cell lysate with Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker. A band is detected within the expected molecular weight range of approximately 12-14 kDa, consistent with beta-2 microglobulin. This Beta-2 Microglobulin Antibody demonstrates B2M detection in human Raji cells.



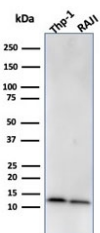
Purified Beta-2 Microglobulin Antibody BBM.1 SDS-PAGE. Gel run analysis of purified, BSA-free Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker. Analysis of the purified mouse monoclonal antibody provides confirmation of antibody integrity and purity.



Beta-2 Microglobulin Antibody BBM.1 in HeLa Cervical Cancer Cells FACS. Flow cytometry testing of PFA-fixed human HeLa cervical cancer cells with Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker. Red represents the isotype control and blue represents BBM.1 antibody staining. Antibody-associated fluorescence demonstrates beta-2 microglobulin detection in HeLa cells by FACS.



Beta-2 Microglobulin Antibody BBM.1 in Human Kidney IHC. Immunohistochemistry staining of FFPE human kidney tissue with Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker. HIER was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling before testing. The observed staining demonstrates beta-2 microglobulin expression in human kidney tissue.



Beta-2 Microglobulin Antibody BBM.1 in THP-1 and Raji Immune Cells WB. Western blot testing of human THP-1 monocytic leukemia and Raji B lymphocyte cell lysates with Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker. A band is detected within the expected molecular weight range of approximately 12-14 kDa, consistent with beta-2 microglobulin. This Beta-2 Microglobulin Antibody demonstrates B2M detection in two human immune-derived cell lines.

Description

Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker detects beta-2 microglobulin (B2M), the invariant light-chain component associated with major histocompatibility complex class I molecules. B2M associates noncovalently with MHC class I heavy chains and contributes to stable complex assembly and cell-surface expression. Through its role in MHC class I structure, beta-2 microglobulin is closely connected to antigen presentation, immune recognition and surveillance of nucleated cells.

MHC class I complexes present intracellularly derived peptide antigens to CD8-positive T cells. Formation of a stable

complex requires an MHC class I heavy chain, beta-2 microglobulin and a bound peptide. B2M associates with the extracellular portion of the heavy chain and supports proper folding and transport of the complex to the cell surface. Loss or alteration of B2M can therefore affect MHC class I expression and interfere with recognition of cells by the adaptive immune system.

Beta-2 microglobulin is widely investigated as an MHC class I marker in immunology, cancer and infectious disease research. Alterations affecting B2M expression or function can reduce surface MHC class I and impair presentation of tumor-associated or pathogen-derived antigens. In cancer, loss of B2M represents one mechanism by which tumor cells can escape CD8 T-cell recognition, making the protein relevant to studies of tumor immune surveillance and resistance to immunotherapy.

B2M can also be released from cell surfaces and detected as a soluble protein in biological fluids. Changes in beta-2 microglobulin levels are studied in hematologic malignancies, renal biology and conditions involving altered immune-cell turnover. Its roles as both an integral component of MHC class I complexes and a soluble disease-associated protein have made B2M an extensively studied target across immunology and disease research.

Clone BBM.1 is a mouse monoclonal antibody generated using the human MOLT-4 T-cell line as immunogen. It recognizes an approximately 12 kDa protein identified as beta-2 microglobulin and has been evaluated by Western blot, immunohistochemistry, immunofluorescence and flow cytometry in human samples. NSJ Bioreagents supplies antibodies for immunology and antigen-presentation research. A Beta-2 Microglobulin Antibody can be used to investigate MHC class I expression, antigen presentation, immune surveillance and mechanisms affecting immune recognition.

For additional research on beta-2 microglobulin expression, MHC class I complexes and antigen presentation, including a protein microarray validated reagent, see our [Beta-2 Microglobulin Antibody / MHC Class I Component Antibody](#) page.

Application Notes

Optimal dilution of the Beta-2 Microglobulin Antibody BBM.1 / MHC Class I Marker should be determined by the researcher.

Immunogen

MOLT-4 human T cell line was used as the immunogen for the Beta-2 Microglobulin Antibody BBM.1.

Storage

Store the Beta-2 Microglobulin Antibody BBM.1 at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Beta-2 Microglobulin antibody, BBM.1 antibody, B2M antibody, MHC Class I Marker antibody, Beta-2-Microglobulin antibody, MHC Class I Light Chain antibody