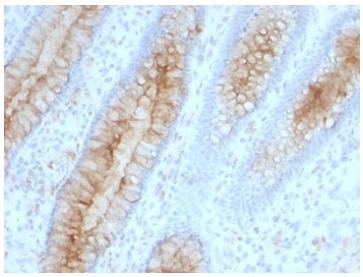
Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody [clone B2M/961] (V2804)

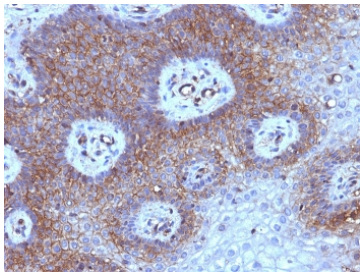
Catalog No.	Formulation	Size
V2804-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2804-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2804SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2804IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

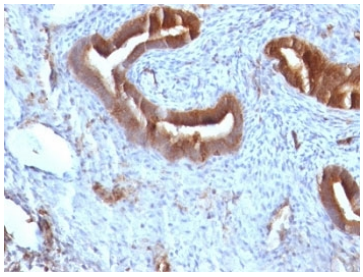
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	B2M/961
Purity	Protein G affinity chromatography
UniProt	P61769
Localization	Cytoplasmic
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-4ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody is available for research use only.



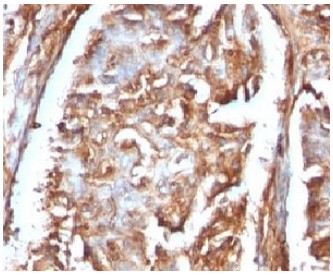
Beta-2 Microglobulin Antibody B2M/961 in Human Colon Carcinoma IHC. Immunohistochemistry staining of FFPE human colon carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. HIER was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The observed staining demonstrates beta-2 microglobulin expression in human colon carcinoma tissue.



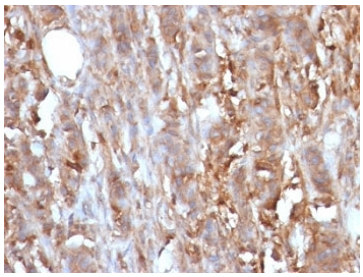
Beta-2 Microglobulin Antibody B2M/961 in Human Cervical Carcinoma IHC. Immunohistochemistry staining of FFPE human cervical carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. HIER was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The observed staining demonstrates beta-2 microglobulin expression in human cervical carcinoma tissue.



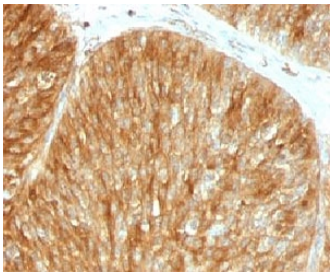
Beta-2 Microglobulin Antibody B2M/961 in Human Endometrial Carcinoma IHC. Immunohistochemistry staining of FFPE human endometrial carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. HIER was performed in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The observed staining demonstrates B2M expression in human endometrial carcinoma tissue.



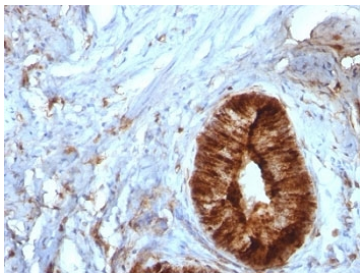
Beta-2 Microglobulin Antibody B2M/961 in Human Renal Carcinoma IHC. Immunohistochemistry staining of FFPE human renal carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. Tissue sections underwent HIER by boiling in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The staining demonstrates beta-2 microglobulin detection in human renal carcinoma tissue.



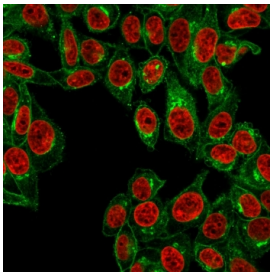
Beta-2 Microglobulin Antibody B2M/961 in Cervical Cancer Tissue IHC. Immunohistochemistry analysis of FFPE human cervical cancer tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. Tissue sections underwent HIER by boiling in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. B2M staining is observed within the cervical cancer tissue.



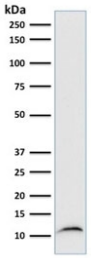
Beta-2 Microglobulin Antibody B2M/961 in Human Bladder Carcinoma IHC. Immunohistochemistry staining of FFPE human bladder carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. HIER was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. Beta-2 microglobulin staining is observed in human bladder carcinoma tissue.



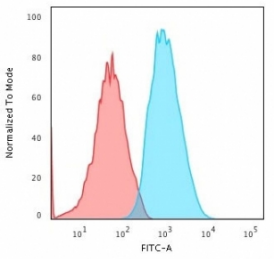
Beta-2 Microglobulin Antibody B2M/961 Cervical Carcinoma Staining IHC. Immunohistochemistry staining of FFPE human cervical carcinoma tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. HIER was performed in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The staining highlights B2M-positive structures within the carcinoma tissue.



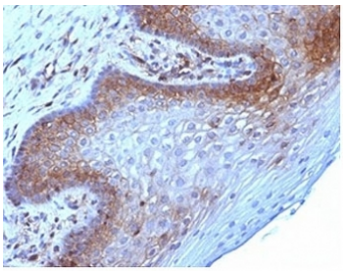
Beta-2 Microglobulin Antibody B2M/961 in HeLa Cervical Cancer Cells IF. Immunofluorescence staining of human HeLa cervical cancer cells with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961 (green), and Reddot nuclear stain (red). Fluorescent staining demonstrates beta-2 microglobulin detection in HeLa cells by IF.



Beta-2 Microglobulin Antibody B2M/961 in Raji B Lymphocytes WB. Western blot testing of human Raji B lymphocyte cell lysate with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961, at 1-2 ug/ml. The observed band demonstrates detection of beta-2 microglobulin in human Raji cells by WB.



Beta-2 Microglobulin Antibody B2M/961 in HeLa Cervical Cancer Cells FACS. Flow cytometry testing of human HeLa cervical cancer cells with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961, at 1-2 ug/million cells. Red represents the isotype control and blue represents B2M/961 antibody staining. Antibody-associated fluorescence demonstrates beta-2 microglobulin detection in HeLa cells by FACS.



Beta-2 Microglobulin Antibody B2M/961 in Cervical Tumor Tissue IHC. Immunohistochemistry analysis of FFPE human cervical tumor tissue with Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody, clone B2M/961. Tissue sections were subjected to HIER by boiling in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min and allowed to cool at RT before testing. The observed staining demonstrates beta-2 microglobulin detection in the cervical tumor tissue.

Description

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

HLA class I complexes present intracellularly derived peptide antigens to CD8-positive T cells. Stable assembly requires association of an HLA class I heavy chain with beta-2 microglobulin and a bound peptide. Although B2M itself does not

span the plasma membrane, its association with the heavy chain supports proper folding, trafficking and expression of the complex at the cell surface. Changes affecting B2M expression can therefore influence HLA class I-mediated antigen presentation and cellular recognition by the adaptive immune system.

Beta-2 microglobulin is particularly relevant to cancer immunology because alterations in B2M can affect recognition of tumor cells by cytotoxic T lymphocytes. Loss or reduced expression of B2M can disrupt surface MHC class I expression and provide a mechanism of tumor immune escape. Conversely, detection of B2M can be used to investigate HLA class I expression and antigen-presentation machinery in tumor cells and tissues. These relationships make B2M important to research involving tumor immune surveillance and mechanisms affecting response or resistance to cancer immunotherapy.

B2M also exists as a soluble protein following release from cell surfaces and is studied in hematologic malignancies, renal biology and disorders associated with altered immune-cell turnover. Elevated circulating beta-2 microglobulin has been investigated extensively in multiple myeloma and lymphoid malignancies, while urinary B2M is studied in relation to renal tubular function. Beta-2 microglobulin therefore connects fundamental HLA class I biology with a broad range of immunology, oncology and disease research.

Clone B2M/961 is the original mouse monoclonal antibody generated against full-length recombinant human beta-2 microglobulin. It has been evaluated by immunohistochemistry, Western blot, immunofluorescence and flow cytometry in human samples, with extensive IHC testing across multiple human carcinoma tissues. NSJ Bioreagents supplies antibodies for immunology, antigen presentation and cancer research. A Beta-2 Microglobulin Antibody can be used to investigate HLA class I expression, antigen presentation, immune surveillance and mechanisms affecting tumor immune recognition.

For a sequenced and recombinantly expressed version of clone B2M/961 with protein microarray validation, see our Beta-2 Microglobulin Antibody / MHC Class I Component Antibody page.

Application Notes

Optimal dilution of the Beta-2 Microglobulin Antibody / HLA Class I Light Chain Antibody should be determined by the researcher.

1. Staining of formalin/paraffin tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Full length recombinant human protein was used as the immunogen for the Beta-2 Microglobulin antibody.

Storage

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

Alternate Names

Beta-2 Microglobulin antibody, HLA Class I Light Chain antibody, B2M antibody, Beta-2-Microglobulin antibody, MHC Class I Light Chain antibody

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