

β -2-Microglobulin (N-19): sc-8362

BACKGROUND

Major histocompatibility complex (MHC) class 1 molecules bind to antigens for presentation on the surface of cells. The proteasome is responsible for producing these antigens from the components of foreign pathogens. MHC class 1 molecules consist of an a heavy chain that contains three subdomains ($\alpha 1$, $\alpha 2$, $\alpha 3$), and a non-covalent associating light chain, known as β -2-Microglobulin. β -2-Microglobulin associates with the $\alpha 3$ subdomain of the a heavy chain and forms an immunoglobulin domain-like structure that mediates proper folding and expression of MHC class 1 molecules. The $\alpha 1$ and $\alpha 2$ domains of the a heavy chain form the peptide antigen-binding cleft. Mice that lack β -2-Microglobulin protein show a normal distribution of T cells, yet have no mature CD4-8⁺ T cells and are defective in CD4-8⁺ T cell-mediated cytotoxicity. Interferon- γ can stimulate production of β -2-Microglobulin transcripts. The human β -2-Microglobulin gene maps to chromosome 15q21.1 and encodes a 119 amino acid protein. Mutations in the β -2-Microglobulin gene can enhance the progression of malignant melanoma phenotypes.

CHROMOSOMAL LOCATION

Genetic locus: B2M (human) mapping to 15q21.1; B2m (mouse) mapping to 2 E5.

SOURCE

β -2-Microglobulin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of β -2-Microglobulin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8362 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β -2-Microglobulin (N-19) is recommended for detection of β -2-Microglobulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β -2-Microglobulin siRNA (h): sc-29592, β -2-Microglobulin siRNA (m): sc-29593, β -2-Microglobulin shRNA Plasmid (h): sc-29592-SH, β -2-Microglobulin shRNA Plasmid (m): sc-29593-SH, β -2-Microglobulin shRNA (h) Lentiviral Particles: sc-29592-V and β -2-Microglobulin shRNA (m) Lentiviral Particles: sc-29593-V.

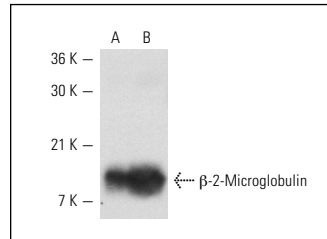
Molecular Weight of β -2-Microglobulin: 12 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

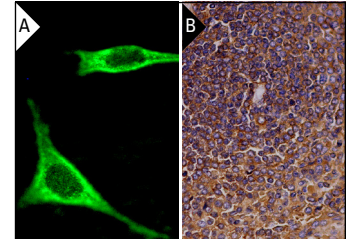
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



β -2-Microglobulin (N-19): sc-8362. Western blot analysis of human recombinant β -2-Microglobulin.



β -2-Microglobulin (N-19): sc-8362. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

SELECT PRODUCT CITATIONS

- Ivanova, M.I., et al. 2004. An amyloid-forming segment of β -2-Microglobulin suggests a molecular model for the fibril. Proc. Natl. Acad. Sci. USA 101: 10584-10589.
- Kim, J.S., et al. 2004. Human cytomegalovirus UL18 alleviated human NK-mediated swine endothelial cell lysis. Biochem. Biophys. Res. Commun. 315: 144-150.
- Imanishi, T., et al. 2006. Correlation between expression of major histocompatibility complex class I and that of antigen presenting machineries in carcinoma cell lines of the pancreas, biliary tract and colon. Kobe J. Med. Sci. 52: 85-95.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **β -2-Microglobulin (BBM.1): sc-13565** or **β -2-Microglobulin (G-10): sc-46697**, our highly recommended monoclonal alternatives to β -2-Microglobulin (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **β -2-Microglobulin (BBM.1): sc-13565**.