

β -2-Microglobulin (HYB332-01): sc-58904

BACKGROUND

Major histocompatibility complex (MHC) class I 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 I molecules consist of an α heavy chain that contains three subdomains (α 1, α 2, α 3), and a non-covalent associating light chain, known as β -2-Microglobulin. β -2-Microglobulin associates with the α 3 subdomain of the α heavy chain and forms an immunoglobulin domain-like structure that mediates proper folding and expression of MHC class I molecules. The α 1 and α 2 domains of the α 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-q22.2 and encodes a 119 amino acid protein. Mutations in the β -2-Microglobulin gene can enhance the progression of malignant melanoma phenotypes.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: B2M (human) mapping to 15q21-q22.2; B2m (mouse) mapping to 2 F1-F3.

SOURCE

β -2-Microglobulin (HYB332-01) is a mouse monoclonal antibody raised against amino acids 49-57 of β -2-Microglobulin of primate origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

β -2-Microglobulin (HYB332-01) is recommended for detection of β -2-Microglobulin of 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)] 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 and β -2-Microglobulin siRNA (h2): sc-44280; and as shRNA Plasmid control antibody for β -2-Microglobulin shRNA Plasmid (h): sc-29592-SH and β -2-Microglobulin shRNA Plasmid (h2): sc-44280-SH.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker[™] compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

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.