

HLA class I (B-D11): sc-65319

BACKGROUND

The major histocompatibility complex (MHC) is a high genomic density gene family that plays an important role in the immune system, autoimmunity and reproductive success. Human MHC genes are referred to as human leukocyte antigen (HLA) genes. MHC class I molecules consist of two polypeptide chains, an α or heavy chain and β -2-Microglobulin, a non-covalently associated protein. Cytotoxic T lymphocytes bind antigenic peptides presented by MHC class I molecules. Antigens that bind to MHC class I molecules are typically 8-10 residues in length and are stabilized in a peptide binding groove. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate binding of exogenous peptides to class II molecules (HLA-DR) by sustaining a conformation that favors peptide exchange. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes.

REFERENCES

1. Janeway, C.A., Jr., Travers, P., Hunt, S. and Walport, M. 1997. Immunobiology: The Immune System in Health and Disease, 3rd Edition. New York: Garland Publishing.
2. Little, A.M. and Parham, P. 1999. Polymorphism and evolution of HLA class I and II genes and molecules. Rev. Immunogenet. 1: 105-123.
3. Van Acker, A., Conte, F., Hulin, N. and Urbain, J. 2001. The epitope recognized by pan-HLA class I-reactive monoclonal antibody W6/32 and its relationship to unusual stability of the HLA-B27/ β -2-Microglobulin complex. Immunogenetics 53: 440-446.
4. Gunther, E. and Walter, L. 2001. The major histocompatibility complex of the rat (*Rattus norvegicus*). Immunogenetics 53: 520-542.
5. Van Kaer, L. 2001. Accessory proteins that control the assembly of MHC molecules with peptides. Immunol. Res. 23: 205-214.
6. Fischer, G.F. and Mayr, W.R. 2001. Molecular genetics of the HLA complex. Wien. Klin. Wochenschr. 113: 814-824.

CHROMOSOMAL LOCATION

Genetic locus: HLA-B (human) mapping to 6p21.33.

SOURCE

HLA class I (B-D11) is a mouse monoclonal antibody raised against U937 cell line.

PRODUCT

Each vial contains 1.25 ml culture supernatant containing IgG₁ with 0.09% sodium azide and 1% stabilizer protein.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

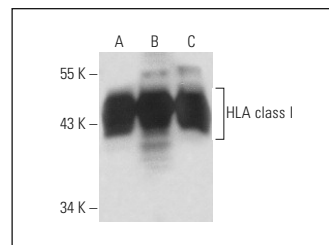
APPLICATIONS

HLA class I (B-D11) is recommended for detection of HLA class I of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range), immunoprecipitation [10-20 μ l per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:25-1:100) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:25-1:100).

Molecular Weight of HLA class I: 46 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, NCI-H929 whole cell lysate: sc-364786 or Ramos cell lysate: sc-2216.

DATA



HLA class I (B-D11): sc-65319. Western blot analysis of HLA class I expression in human PBL (A), Ramos (B) and NCI-H929 (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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



See **HLA class I (HP-1F7): sc-69892** for HLA class I antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.