SANTA CRUZ BIOTECHNOLOGY, INC.

H2-K^d (SF1-1.1): sc-53852

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules, which include human leukocyte antigens (HLAs), form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). MHC class I molecules consist of two polypeptide chains: an α or heavy chain, and a non-covalently associated protein, β-2-Microglobulin. MHC class II molecules consist of a non-covalent complex of an α and β chain. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. H2-K^d is a mouse MHC class I protein which contains one Ig-like C1-type (immunoglobulin-like) domain.

REFERENCES

1. Kimball, E.S., et al. 1981. Amino acid sequence of residues 1-98 of the K-2K^b murine major histocompatibility alloantigen: comparison with H-K^b and H-2db reveals extensive localized differences. Biochemistry 20: 3301-3308.
2. Kvist, S., et al. 1981. cDNA clone coding for part of a mouse H-2d major histocompatibility antigen. Proc. Natl. Acad. Sci. USA 78: 2772-2776.
3. Brégégère, F., et al. 1981. Structure of C-terminal half of two H-2 antigens from cloned mRNA. Nature 292: 78-81.
4. Lalanne, J.L., et al. 1983. A cDNA clone containing the entire coding sequence of a mouse H2-K^d histocompatibility antigen. Nucleic Acids Res. 11: 1567-1577.
5. Schmidt, W., et al. 1996. Transloading of tumor cells with foreign major histocompatibility complex class I peptide ligand: a novel general strategy for the generation of potent cancer vaccines. Proc. Natl. Acad. Sci. USA 93: 9759-9763.
6. Wang, M., et al. 1996. Nucleotide sequences of three H-2K and three H-2D complementary DNA clones coding mouse class I MHC heavy chain proteins. Ann. Transplant. 1: 26-31.
7. Bouwer, H.G., et al. 2001. Lack of expansion of major histocompatibility complex class Ib-restricted effector cells following recovery from secondary infection with the intracellular pathogen *Listeria monocytogenes*. Infect. Immun. 69: 2286-2292.
8. Kvist, S., et al. 2002. Mouse histocompatibility genes: structure and organisation of a K^d gene. EMBO J. 2: 245-254.

CHROMOSOMAL LOCATION

Genetic locus: H2-K1 (mouse) mapping to 17 B1.

SOURCE

H2-K^d (SF1-1.1) is a mouse monoclonal antibody raised against BALB/c cells of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

H2-K^d (SF1-1.1) is available conjugated to agarose (sc-53852 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53852 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53852 PE), fluorescein (sc-53852 FITC), Alexa Fluor® 488 (sc-53852 AF488), Alexa Fluor® 546 (sc-53852 AF546), Alexa Fluor® 594 (sc-53852 AF594) or Alexa Fluor® 647 (sc-53852 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53852 AF680) or Alexa Fluor® 790 (sc-53852 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

H2-K^d (SF1-1.1) is recommended for detection of the α3 domain of MHC class I H2-K^d of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Du, L., et al. 2020. β-catenin induces transcriptional expression of PD-L1 to promote glioblastoma immune evasion. J. Exp. Med. 217: e20191115.
2. Ge, Z., et al. 2022. Exercise modulates polarization of TAMs and expression of related immune checkpoints in mice with lung cancer. J. Cancer 13: 3297-3307.
3. Deng, G., et al 2022. Targeting cathepsin B by cycloastragenol enhances antitumor immunity of CD8 T cells via inhibiting MHC-I degradation. J. Immunother. Cancer 10: e004874.

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.