SANTA CRUZ BIOTECHNOLOGY, INC.

Melan-A (M2-9E3): sc-53537

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Melanoma-associated antigens recognized by cytotoxic T lymphocytes (CTL) have been grouped into three categories: melanocyte differentiation antigens, cancer/testis-specific antigens and mutated or aberrantly expressed antigens. Many of these antigens consist of peptides that are presented to T cells by HLA molecules, and they represent potential targets for cancer immunotherapy. Melan-A (also designated MART-1) is a melanocyte differentiation antigen that is specific to melanomas, melanocyte cell lines and retina. Melan-A peptide is recognized by most HLA-A2-restricted tumor-specific tumor-infiltrating lymphocytes in patients with melanoma. Antimelanoma cytotoxic T lymphocytes can be generated with a Melan-A peptide, implicating Melan-A as a potential candidate for antigen-specific immunotherapy in melanoma patients.

REFERENCES

1. Chen, Y.T., et al. 1996. Serological analysis of Melan-A (MART-1), a melanocyte-specific protein homogeneously expressed in human melanomas. Proc. Natl. Acad. Sci. USA 93: 5915-5919.
2. Van den Eynde, B.J. and Boon, T. 1997. Tumor antigens recognized by T lymphocytes. Int. J. Clin. Lab. Res. 27: 81-86.
3. Kawakami, Y. et al. 1997. Production of recombinant MART-1 proteins and specific antiMART-1 polyclonal and monoclonal antibodies: use in the characterization of the human melanoma antigen MART-1. J. Immunol. Methods 202: 13-25.
4. Kirkin, A.F., et al. 1998. Melanoma-associated antigens recognized by cytotoxic T lymphocytes. APMIS 106: 665-679.
5. Busam, K.J., et al. 1998. Expression of Melan-A (MART-1) in benign melanocytic nevi and primary cutaneous malignant melanoma. Am. J. Surg. Pathol. 22: 976-982.
6. Loftus, D.J., et al. 1998. Peptides derived from self-proteins as partial agonists and antagonists of human CD8$^+$ T cell clones reactive to melanoma/melanocyte epitope MART-1 (27-35). Cancer Res. 58: 2433-2439.
7. Vignard, V., et al. 2005. Adoptive transfer of tumor-reactive Melan-A-specific CTL clones in melanoma patients is followed by increased frequencies of additional Melan-A-specific T cells. J. Immunol. 175: 4797-4805.
8. Appay, V., et al. 2006. Decreased specific CD8$^+$ T cell cross-reactivity of antigen recognition following vaccination with Melan-A peptide. Eur. J. Immunol. 36: 1805-1814.

CHROMOSOMAL LOCATION

Genetic locus: MLANA (human) mapping to 9p24.1; Mlana (mouse) mapping to 19 C1.

SOURCE

Melan-A (M2-9E3) is a mouse monoclonal antibody raised against recombinant Melan-A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

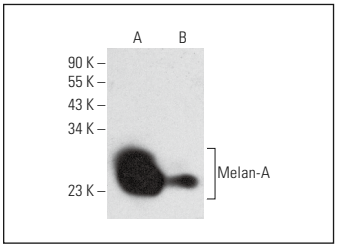
Melan-A (M2-9E3) is recommended for detection of Melan-A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Melan-A siRNA (h): sc-35920, Melan-A siRNA (m): sc-35921, Melan-A shRNA Plasmid (h): sc-35920-SH, Melan-A shRNA Plasmid (m): sc-35921-SH, Melan-A shRNA (h) Lentiviral Particles: sc-35920-V and Melan-A shRNA (m) Lentiviral Particles: sc-35921-V.

Molecular Weight of acylated Melan-A: 20-24 kDa.

Positive Controls: SK-MEL-24 whole cell lysate: sc-364259, C32 whole cell lysate: sc-2205 or SK-MEL-28 cell lysate: sc-2236.

DATA



Melan-A (M2-9E3): sc-53537. Western blot analysis of Melan-A expression in SK-MEL-28 (**A**) and C32 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gembarska, A., et al. 2012. MDM4 is a key therapeutic target in cutaneous melanoma. Nat. Med. 18: 1239-1247.

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.

CONJUGATES

See **Melan-A (A103): sc-20032** for Melan-A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.