SANTA CRUZ BIOTECHNOLOGY, INC.

# Melan-A (A103): sc-20032

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. Anti-melanoma 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Melan-A (A103) is a mouse monoclonal antibody raised against recombinant Melan-A.

## 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.

Melan-A (A103) is available conjugated to agarose (sc-20032 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-20032 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20032 PE), fluorescein (sc-20032 FITC), Alexa Fluor® 488 (sc-20032 AF488), Alexa Fluor® 546 (sc-20032 AF546), Alexa Fluor® 594 (sc-20032 AF594) or Alexa Fluor® 647 (sc-20032 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20032 AF680) or Alexa Fluor® 790 (sc-20032 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Melan-A (A103) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x $10^6$ cells).

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.

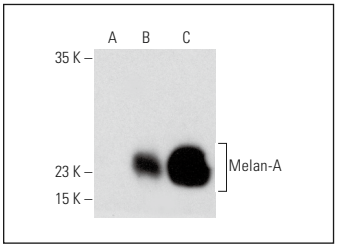
Molecular Weight of acylated Melan-A: 20-24 kDa.

Positive Controls: Melan-A (h2): 293T Lysate: sc-159493, C32 whole cell lysate: sc-2205 or SK-MEL-28 cell lysate: sc-2236.

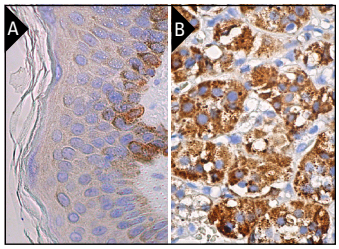
## STORAGE

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

## DATA




Melan-A (A103) HRP: sc-20032 HRP. Direct western blot analysis of Melan-A expression in non-transfected 293T: sc-117752 (**A**), human Melan-A transfected 293T: sc-159493 (**B**) and SK-MEL-28 (**C**) whole cell lysates.




Melan-A (A103): sc-20032. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of melanocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Serafino, A., et al. 2004. Differentiation of human melanoma cells induced by cyanidin-3-O-β-glucopyranoside. FASEB J. 18: 1940-1942.
2. Zeng, W., et al. 2014. Artificial antigen-presenting cells expressing CD80, CD70, and 4-1BB ligand efficiently expand functional T cells specific to tumor-associated antigens. Immunobiology 219: 583-592.
3. Nakatsugawa, M., et al. 2015. Specific roles of each TCR hemichain in generating functional chain-centric TCR. J. Immunol. 194: 3487-3500.
4. Yoon, H.S., et al. 2016. Comparative depigmentation effects of resveratrol and its two methyl analogues in α-melanocyte stimulating hormone-triggered B16/F10 murine melanoma cells. Prev. Nutr. Food Sci. 21: 155-159.
5. Gonçalves, A.F., et al. 2017. Evidence of renal angiomyolipoma neoplastic stem cells arising from renal epithelial cells. Nat. Commun. 8: 1466.
6. Knol, A.C., et al. 2018. PD-L1 expression by tumor cell lines: a predictive marker in melanoma. Exp. Dermatol. 27: 647-655.
7. Takahashi, R., et al. 2019. Defining transcriptional signatures of human hair follicle cell states. J. Invest. Dermatol. 140: 764-773.e4.
8. Wu, M., et al. 2020. A large-scale collection of giant congenital melanocytic nevi: clinical and histopathological characteristics. Exp. Ther. Med. 19: 313-318.
9. Wang, Y., et al. 2021. TGF-β2 upregulates tyrosinase activity via Opsin3 in human skin melanocytes *in vitro*. J. Invest. Dermatol. 141: 2679-2689.
10. Willemsen, M., et al. 2022. IFN-γ-induced PD-L1 expression on human melanocytes is impaired in vitiligo. Exp. Dermatol. 31: 556-566.


## RESEARCH USE

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