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AM32813PU-N Monoclonal Antibody to MART-1 - Purified

Alternate names:	Antigen SK29-AA, LB39-AA, MART1, MLANA, Melan-A protein, MelanA, Melanoma antigen recognized by T-cells 1
Quantity:	0.2 mg
Concentration:	0.2 mg/ml
Background:	Melan-A also known as MART-1 (Melanoma Antigen Recognize by T cells 1), is an 18 kDa melanocyte differentiation antigen recognized by T cells. Melan-A is expressed in melanosomes and the endoplasmic reticulum. Melan-A is the most widely used marker for identifying malignant melanoma (Campoli, 2012), a highly aggressive and deadly form of skin cancer which may be curable when caught early. Melan-A specific monoclonal antibodies have utility for evaluating suspected melanocyte lesions by immunohistochemistry as they have both high sensitivity (75-92%) and specificity (95-100%) for melanoma (Campoli, 2012, Oshie, 2012).
Uniprot ID:	Q16655
NCBI:	NP_005502.1
GeneID:	2315
Host / Isotype:	Mouse / IgG2b
Recommended Isotype Controls:	SM12P, AM03110PU-N
Clone:	M2-9E3
Immunogen:	Recombinant Human MART-1 protein.
Format:	**State:** Liquid purified IgG fraction from Bioreactor Concentrate **Purification:** Affinity Chromatography on Protein A/G **Buffer System:** 10mM PBS **Preservatives:** 0.05% Sodium Azide **Stabilizers:** 0.05% BSA
Applications:	**ELISA:** Use BSA free Antibody for Coating. **Western Blot:** 0.5-1 µg/ml. **Immunoprecipitaion:** 0.5-1 µg/500 µg protein lysate. **Flow Cytometry:** 0.5-1 µg/10^6 cells. **Immunofluorescence:** 1-2 µg/ml. **Immunohistochemistry on Frozen and Formalin-Fixed Paraffin Sections:** 0.5-1 µg/ml for 30 minutes at RT. Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0 for 10-20 min followed by cooling at RT for 20 min. ***Positive Control:*** SK-MEL-13 and SK-MEL-19 Melanoma cell lines; Melanomas. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Molecular Weight:	20-22kDa (doublet)

Specificity:

This antibody recognizes a protein doublet of 20-22kDa, identified as MART-1 (Melanoma Antigen Recognized by T cells 1) or Melan-A.
It is also a useful positive-marker for angiomyolipomas. It does not stain tumor cells of epithelial, lymphoid, glial, or mesenchymal origin.
The clone *M2-9E3* MART-1 antibody labels melanomas and other tumors showing melanocyte differentiation (Kawakami et al, 1997). The antibody has been highly characterized, including by Immunohistochemistry, Immunofluorescence, Western blot and Immunoprecipitation, and the specificity of the antibody for Melan-A has also been validated by Melan-A siRNA knockdown (Hoashi et al, 2005). Additionally, the Melan-A antibody has been used in combination with other melanocyte differentiation markers to help confirm or exclude melanocyte histogenesis (Collins, 2012; Mihic-Probst, 2012). It is important to note that Melan-A expression is not restricted to melanoma, and may also be detectable on some other type of tumors (reviewed in Campoli, 2012).
The exact eptiope recognized by the Melan-A antibody has not been mapped. However, the Melan-A epitope recognized by this antibody appears to be different than that recognized by the MART-1 antibody clone *M2-7C10* (Cat.-No AM32812PU) (Kawakami, 1997). Researchers often use more than one antibody against a given specificity to help follow up and validate results. Hence, it may be useful to use both the Cat.-No AM32812PU and Cat.-No AM32813PU antibodies in parallel to obtain additional information about Melan-A expression.
Cellular Localization: Cytoplasmic.

Species Reactivity:

Tested: Human, Mouse, Rat.

Storage:

Store undiluted at 2-8°C.
Shelf life: one year from despatch.

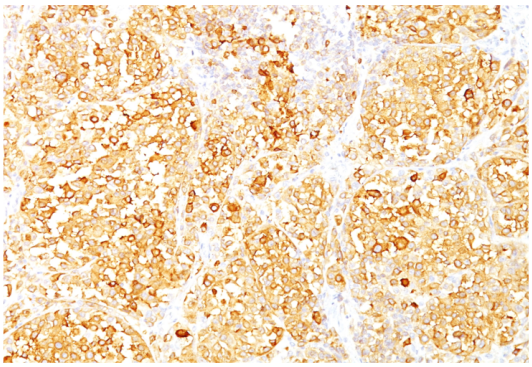
General Readings:

1. Marincola FM, Hijazi YM, Fetsch P, Salgaller ML, Rivoltini L, Cormier J, et al. Analysis of expression of the melanoma-associated antigens MART-1 and gp100 in metastatic melanoma cell lines and in in situ lesions. J Immunother Emphasis Tumor Immunol. 1996 May;19(3):192-205. PubMed PMID: 8811494.
2. Kawakami Y, Battles JK, Kobayashi T, Ennis W, Wang X, Tupesis JP, et al. 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. 1997 Mar 10;202(1):13-25. PubMed PMID: 9075767.
3. Campoli et al. Mohs Micrographic Surgery for the Treatment of Cutaneous Melanoma. In: Mohs Micrographic Surgery. Nouri K (Editor) 211-223 (2012), DOI: 10.1007/978-1-4471-2152-7.
4. Ohsie et al. Tissue-Based Protein Biomarkers in Melanoma: Immunohistochemistry: (A) Diagnosis. In Diagnostic and Prognostic Biomarkers and Therapeutic Targets in Melanoma Current Clinical Pathology, Murphy MJ (Editor). 159-176 (2012), 159-176, DOI: 10.1007/978-1-60761-433-3.
5. Collins GR, Essary L, Strauss J, Hino P, Cockerell CJ. Incidentally discovered distant cutaneous metastasis of sacral chordoma: a case with variation in S100 protein expression (compared to the primary tumor) and review of the literature. J Cutan Pathol. 2012 Jun;39(6):637-43. doi: 10.1111/j.1600-0560.2012.01895.x. Epub 2012 Apr 24. PubMed PMID: 22524546.

6. Mihic-Probst D, Ikenberg K, Tinguely M, Schraml P, Behnke S, Seifert B, et al. Tumor cell plasticity and angiogenesis in human melanomas. PLoS One. 2012;7(3):e33571. doi: 10.1371/journal.pone.0033571. Epub 2012 Mar 19. PubMed PMID: 22442699.

Pictures:

Formalin-Fixed, Paraffin-Embedded Human melanoma stained with MART-1 Antibody Cat.No AM32813PU (Clone M2-9E2). Note cytoplasmic staining of cells.



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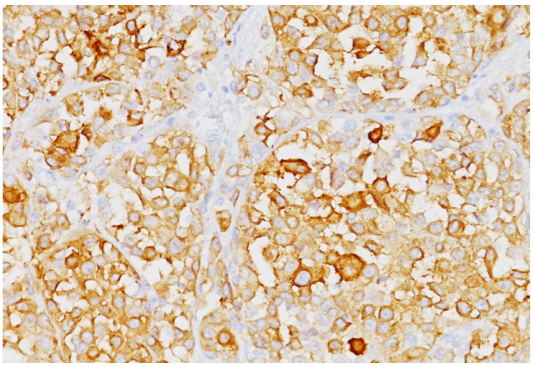

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