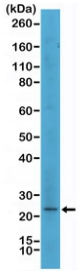
MART1 Antibody / Melanosome Biology Marker Antibody [clone RM333] (R20357)

Catalog No.	Formulation	Size
R20357-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

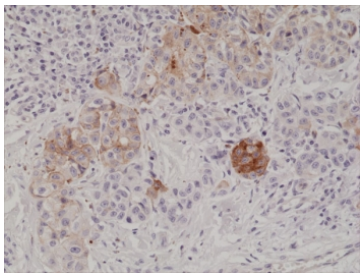
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM333
Purity	Protein A purified from animal origin-free supernatant
UniProt	Q16655
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 1:500-1:1000 Western Blot : 1:500-1:1000
Limitations	This MART1 Antibody / Melanosome Biology Marker Antibody is available for research use only.



MART1 Antibody SK-MEL-2 WB. Western blot analysis of human SK-MEL-2 cell lysate using MART1 Antibody / Melanosome Biology Marker Antibody. A distinct band is detected near approximately 18-20 kDa, consistent with the expected molecular weight range of Melanoma antigen recognized by T-cells 1 / MLANA/MART1, a melanocyte lineage-associated protein involved in melanosome maturation and melanoma differentiation pathways. A possible closely migrating doublet may reflect alternatively processed or post-translationally modified MART1-associated protein species commonly observed in melanocytic tumor cell lines.



MART1 Antibody human melanoma IHC staining. Immunohistochemistry analysis of Melan A (MLANA) in FFPE human melanoma using MART-1 Antibody clone RM333 (1:1000 dilution) demonstrates cytoplasmic HRP-DAB brown staining in tumor cells, highlighting melanosome-associated compartments consistent with active pigment production, while surrounding stromal cells remain largely negative. The staining pattern supports detection of a melanosome biology marker and enables clear identification of melanocytic tumor cells with preserved pigment-producing function.

Description

MART-1, also known as Melan A or MLANA, is a melanocyte-specific protein that plays a central role in melanosome biogenesis and pigment production. It is localized to melanosomes, the specialized intracellular organelles responsible for melanin synthesis, storage, and transport, and contributes to proper melanosome maturation and structural organization. Through its association with melanosomal membranes and protein complexes, MART-1 supports the stability and function of pigment-producing organelles. Because of this direct role in melanosome biology, MART-1 is widely used as a marker of pigment cell function and intracellular organelle specialization. MART-1 Antibody reagents are therefore valuable tools for studying melanocyte biology at both the cellular and subcellular levels.

MART-1 antibody, also referred to as Melan A antibody or MLANA antibody in the literature, recognizes a cytoplasmic protein that is tightly associated with melanosomal compartments within melanocytes. The MART-1 Antibody clone RM333 is particularly suited for studies focused on melanosome structure and function, where detection of MLANA expression provides insight into pigment-producing organelle formation and intracellular organization. In normal tissues, MART-1 expression is restricted to melanocytes, where staining highlights cytoplasmic regions enriched in melanosomes, while surrounding epithelial, stromal, and immune cells remain largely negative, enabling clear visualization of pigment cell populations.

At the cellular level, MART-1 expression correlates with active melanosome formation and pigment production. It participates in pathways that regulate melanosome maturation, including interactions with other melanosomal proteins involved in trafficking, processing, and structural assembly. This makes MART-1 a useful marker for investigating melanosome development, intracellular transport, and pigment synthesis pathways. Detection of MART-1 supports detailed analysis of melanocyte function, cellular organization, and the dynamics of pigment-producing organelles.

In disease contexts, particularly melanoma, MART-1 expression reflects both melanocytic lineage and the presence of melanosome-associated structures within tumor cells. Cytoplasmic staining in melanoma highlights tumor cells that retain pigment-producing characteristics, providing insight into tumor differentiation state and functional properties. Unlike markers that only indicate lineage, MART-1 offers additional information related to cellular function and organelle biology within melanocytic tumors.

The restricted expression profile of MART-1 minimizes background signal in non-melanocytic tissues, enhancing interpretability in heterogeneous samples and enabling precise identification of melanosome-rich cells. This is particularly valuable in studies where subcellular localization and intracellular organization are key parameters.

Clone RM333 enables consistent and reproducible detection of Melan A in applications requiring detailed analysis of melanosome-associated proteins. Its performance supports studies of pigmentation, melanocyte function, organelle biology, and melanoma research, making it well suited for investigations focused on the structure and function of pigment-producing cells.

This antibody is part of the Melan-A antibody collection, where additional MLANA/MART-1 antibodies for various applications can be explored.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant MART1 Antibody / Melanosome Biology Marker Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to the N-terminus of human MART1 (Melanoma antigen recognized by T-cells-1) was used as the immunogen for the recombinant MART1 antibody.

Storage

Store the recombinant MART1 antibody at -20oC.

Alternate Names

MART-1 antibody, MLANA antibody, Melan A antibody, melanosome marker antibody, pigmentation marker antibody, melanocyte organelle marker antibody