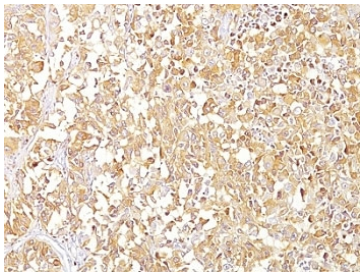
Gp100 Antibody Clone SPM142 / PMEL17 Melanoma Marker Antibody [clone SPM142] (V9078)

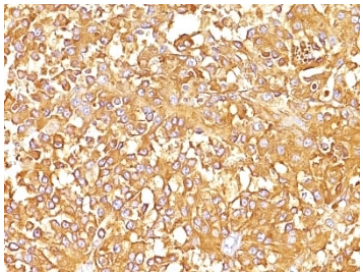
Catalog No.	Formulation	Size
V9078-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V9078-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V9078SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V9078IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

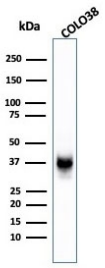
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM142
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This gp100 antibody is available for research use only.



Gp100 Antibody Clone SPM142. Immunohistochemistry analysis of formalin-fixed, paraffin-embedded human melanoma tissue stained with Gp100 Antibody Clone SPM142. Melanoma tumor cells show cytoplasmic HRP-DAB brown chromogenic staining consistent with expression of gp100 / PMEL17, a melanosome-associated protein characteristic of melanocytic lineage. Positive staining highlights melanoma tumor cells throughout the tissue section, while surrounding stromal components show minimal background staining.



IHC: Formalin-fixed, paraffin-embedded human melanoma stained with gp100 antibody (SPM142).



Gp100 Antibody Clone SPM142. Western blot analysis of human COLO-38 melanoma cell lysate using Gp100 Antibody Clone SPM142. Lane 1: human COLO-38 cell lysate. A band is detected at approximately 34-38 kDa, consistent with processed fragments of Premelanosome protein PMEL17, also known as gp100. PMEL is synthesized as an approximately 100 kDa glycosylated precursor that undergoes proteolytic cleavage to generate an approximately 60-64 kDa M-alpha fragment and an approximately 26 kDa M-beta fragment. The M-alpha fragment is further processed into approximately 34-38 kDa and approximately 26 kDa fragments that assemble into the fibrillar matrix of developing melanosomes in melanocytic cells.

Description

Premelanosome protein (PMEL) is a melanocyte lineage-associated glycoprotein encoded by the PMEL gene and is an essential structural component of melanosomes responsible for supporting melanin deposition and pigment granule formation. This protein is widely known in the scientific literature as gp100 and PMEL17 and plays a critical role in the early stages of melanosome biogenesis. The protein forms fibrillar structures inside premelanosomes that serve as a scaffold for the polymerization and organization of melanin pigments during melanocyte differentiation. Premelanosome protein (PMEL) is also referred to as gp100, Pmel17, and silver locus protein in publications describing melanocyte biology and melanosome structure.

Gp100 Antibody Clone SPM142 is a mouse monoclonal antibody developed to recognize the melanocytic differentiation antigen gp100. The key distinguishing feature of this reagent is the antibody clone SPM142, which serves as the defining differentiator for this antibody compared with other gp100-targeting antibodies. Because Clone SPM142 recognizes a protein associated with pigment-producing melanocytes, it provides a useful reagent for identifying melanocytic lineage markers in studies of melanoma and pigment cell biology. Although fewer publications reference this clone compared with historically established antibodies, the available literature demonstrates that Clone SPM142 has been used in scientific investigations examining melanocytic markers and melanoma-associated proteins.

The gp100 protein functions during the early stages of melanosome development where it undergoes complex proteolytic processing that produces fragments capable of forming amyloid-like fibrillar structures. These fibrils provide the structural matrix required for melanin polymerization and accumulation within developing melanosomes. Proper assembly of these fibrils is essential for normal pigment production and melanosome architecture. In melanocytes and melanoma cells, gp100 localizes primarily to premelanosomes and early stage melanosomes where it contributes to the organization of pigment granules and the maturation of melanosomes.

Expression of PMEL is largely restricted to melanocytes, retinal pigment epithelial cells, and melanocytic tumors, making gp100 one of the most widely used melanocyte lineage markers in melanoma biology. Researchers frequently evaluate gp100 together with other melanocyte-associated proteins such as Melan-A, tyrosinase, and MITF to assess melanocytic differentiation and characterize melanoma tumors. Because melanoma cells can display heterogeneous expression of lineage markers, antibodies targeting gp100 provide important complementary information when analyzing melanocytic lesions and melanoma metastases.

Gp100 Antibody Clone SPM142 therefore represents a mouse monoclonal antibody reagent designed to detect the

melanocytic antigen gp100 and support studies of melanocyte biology and melanoma-associated proteins. The distinguishing clone SPM142 differentiator helps define this reagent within the broader group of gp100 antibodies used in melanoma research and provides investigators with an additional tool for studying melanocytic differentiation markers and melanosome-associated proteins.

Application Notes

The optimal dilution of the Gp100 Antibody Clone SPM142 for each application should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Extract of pigmented melanoma metastases from lymph nodes was used as the immunogen for this gp100 antibody.

Storage

Store the gp100 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

PMEL antibody, gp100 melanoma antigen antibody, Pmel17 antibody, Melanocyte differentiation antigen antibody