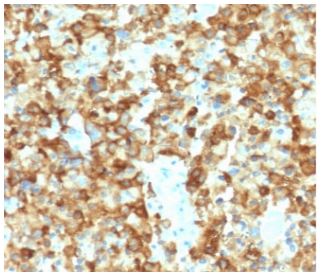
Melanoma gp100 Antibody / PMEL17 [clone MSSG95-2] (V3916)

Catalog No.	Formulation	Size
V3916-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3916-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3916SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

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	MSSG95-2
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Melanoma gp100 antibody is available for research use only.



Immunohistochemistry analysis of Melanoma gp100 antibody in human melanoma tissue. FFPE human melanoma sections show strong HRP-DAB brown cytoplasmic and membranous staining in tumor cells, consistent with premelanosome-associated localization of PMEL protein in melanocytic cells. Staining is observed in cohesive nests and sheets of melanoma cells, while surrounding stromal components show minimal background signal. Heat induced epitope retrieval was performed in 10 mM Tris with 1 mM EDTA, pH 9.0, by boiling for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to antibody incubation.

Description

Melanoma gp100 antibody recognizes Premelanosome protein, encoded by the PMEL gene and widely known as gp100, Pmel17, SILV, and Silver locus protein homolog. PMEL is a melanocyte lineage-specific type I transmembrane glycoprotein localized to early stage melanosomes, where it plays a structural role in pigment organelle maturation. Melanoma gp100 antibody targets this key melanosomal protein that is highly expressed in normal melanocytes and the majority of primary and metastatic melanomas.

PMEL is synthesized in the endoplasmic reticulum and trafficked through the Golgi apparatus before being delivered to stage I and II melanosomes. Within these organelles, the protein undergoes regulated proteolytic processing into fragments that assemble into amyloid-like fibrils. These fibrillar structures form the internal scaffold of the developing melanosome, providing a template for eumelanin deposition. Proper processing and assembly of PMEL are critical for normal pigmentation and protection of melanocytes from reactive melanin intermediates.

Functionally, PMEL is considered a defining marker of melanocytic differentiation. Expression is typically observed in epidermal melanocytes, hair follicle melanocytes, and uveal melanocytes, as well as in melanoma cells of varying differentiation states. Because of its restricted lineage expression, Melanoma gp100 antibody is widely used in research settings to identify melanocytic tumors and to distinguish melanoma from non-melanocytic malignancies. Reduced or heterogeneous expression can occur in poorly differentiated melanomas, reflecting changes in lineage-specific gene programs.

The PMEL gene is located on chromosome 12 and belongs to a small group of melanosome-associated proteins that coordinate pigment synthesis and organelle biogenesis. Alterations in PMEL processing or trafficking can impair melanosome maturation and influence pigmentation phenotypes. In melanoma research, gp100 is also studied as a differentiation antigen and tumor-associated marker due to its high prevalence in melanocytic neoplasms.

The Melanoma gp100 antibody (clone MSSG95-2) is suitable for detecting PMEL protein expression in research applications. This PMEL antibody supports investigations of melanocyte biology, melanosome structure, pigment formation pathways, and melanoma characterization.

Application Notes

The stated application concentrations are suggested starting points. Titration of the Melanoma gp100 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 376-502 from the human protein was used as the immunogen for the Melanoma gp100 antibody.

Storage

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