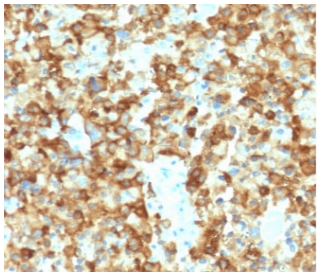
Melanoma gp100 Antibody / PMEL17 [clone MSSG95-2] (V3916)

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.



IHC testing of human melanoma with Melanoma gp100 antibody (clone MSSG95-2). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.

Description

Melanoma gp100 antibody (clone MSSG95-2) detects PMEL, also known as Melanocyte protein PMEL17 or premelanosome protein, a pigment cell-specific structural glycoprotein that supports melanin biosynthesis. The UniProt recommended name is Melanocyte protein PMEL (PMEL). gp100 is a defining component of the melanosome matrix, where it assembles into fibrillar scaffolds that direct pigment polymerization and organelle maturation in melanocytes and melanoma cells. Its restricted expression pattern and biochemical function make it a reliable marker for melanocytic differentiation and melanoma identification.

The PMEL gene resides on chromosome 12q13.2 and encodes a type I transmembrane protein that undergoes extensive post-translational modification and proteolytic processing. Following synthesis, PMEL passes through the endoplasmic reticulum and Golgi apparatus, where it becomes glycosylated and cleaved into functional fragments. These fragments accumulate within early-stage melanosomes (stage II) to form amyloid-like fibrils, which serve as the foundational framework for melanin deposition. Proper PMEL assembly is essential for melanosome integrity, while defective processing results in disorganized pigment granules and altered melanin storage.

PMEL expression is tightly controlled by the transcription factor MITF (microphthalmia-associated transcription factor), a central regulator of melanocyte lineage specification. gp100 is expressed in normal pigment cells, retinal pigment epithelium, and most melanomas. In the skin, it is localized to dendritic extensions of melanocytes that facilitate pigment transfer to neighboring keratinocytes. Within the eye, it contributes to pigmentation of the retinal pigment epithelium and visual homeostasis. Because PMEL is expressed exclusively in pigment cell lineages, it serves as a powerful biomarker for melanoma detection and classification.

Clone MSSG95-2 is a monoclonal antibody developed for the detection of gp100 in mammalian tissues and cultured cells. It recognizes PMEL protein in melanocytes and melanoma models, producing consistent labeling of pigment organelles. The antibody can be applied to evaluate melanosome maturation, melanocytic phenotype, and pigmentation patterns in tumor and developmental studies. Its high specificity for PMEL17 makes it valuable for distinguishing melanocytic origin in research and diagnostic applications.

Beyond pigmentation biology, gp100 has clinical significance as a melanoma-associated antigen that elicits T-cell immune responses. gp100-derived peptides have been studied for their potential to stimulate antitumor immunity and are used in immunotherapy research targeting melanoma. Detection of PMEL expression assists in correlating antigen presentation, differentiation status, and tumor behavior, offering insights into melanoma progression and treatment response.

Melanoma gp100 antibody (clone MSSG95-2) is suitable for identifying PMEL expression in melanoma tissue, pigment cell cultures, or developmental models of melanogenesis. NSJ Bioreagents provides Melanoma gp100 antibody (clone MSSG95-2) validated for use in relevant research applications supporting studies in pigment cell biology, melanoma immunology, and melanosome organization.

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).