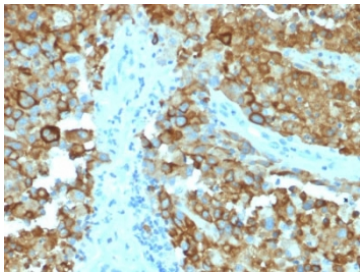
Melanoma gp100 Antibody / PMEL17 [clone PMEL/2038] (V3931)

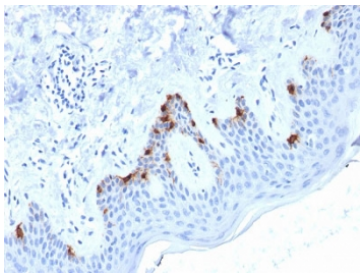
Catalog No.	Formulation	Size
V3931-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3931-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3931SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

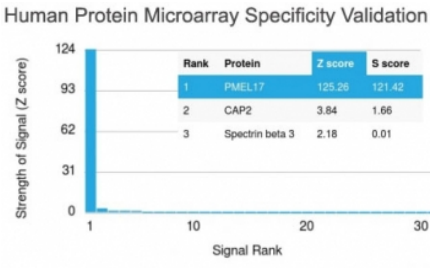
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	PMEL/2038
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	ELISA : 2-4ug/ml (order BSA/azide-free format) Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 1-2ug/ml
Limitations	This Melanoma gp100 antibody is available for research use only.



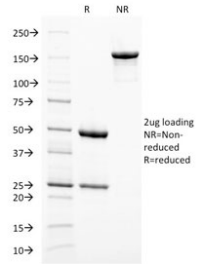
IHC testing of human melanoma with Melanoma gp100 antibody (clone PMEL/2038). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



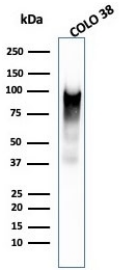
IHC testing of human skin with Melanoma gp100 antibody (clone PMEL/2038). Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using Melanoma gp100 antibody (clone PMEL/2038). These results demonstrate the foremost specificity of the PMEL/2038 mAb.
Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



SDS-PAGE analysis of purified, BSA-free Melanoma gp100 antibody (clone PMEL/2038) as confirmation of integrity and purity.



Western blot testing of human COLO-38 cell lysate with Melanoma gp100 antibody (clone PMEL/2038). The ~100 kDa glycosylated PMEL precursor is proteolytically cleaved into an ~60-64 kDa M-alpha fragment and an ~26 kDa M-beta fragment. The M-alpha fragment is subsequently processed into ~34-38 kDa and ~26 kDa fragments that assemble into the fibrillar matrix of melanosomes.

Description

Melanoma gp100 antibody (clone PMEL/2038) detects PMEL17, also known as Melanocyte protein PMEL or premelanosome protein, a pigment cell-specific glycoprotein essential for the structural organization of melanosomes. The UniProt recommended name is Melanocyte protein PMEL (PMEL). This transmembrane glycoprotein forms the internal fibrillar matrix of premelanosomes that supports melanin polymerization and pigment granule maturation. Because of its restricted expression in melanocytes and melanoma cells, gp100 serves as a hallmark marker for pigment cell lineage and melanoma differentiation.

The PMEL gene, located on chromosome 12q13.2, encodes a type I transmembrane protein that undergoes complex proteolytic processing during melanosome biogenesis. The precursor protein (~100 kDa) is cleaved in the Golgi and endosomal compartments to generate fragments that assemble into amyloid-like fibrils. These fibrils provide the scaffold that gives melanosomes their characteristic striated appearance and facilitate proper melanin deposition. Disruption of PMEL processing or fibril formation leads to abnormal melanosome structure and impaired pigment synthesis.

In normal melanocytes, PMEL17 expression is tightly regulated by MITF (microphthalmia-associated transcription factor),

a central regulator of pigment cell differentiation and survival. PMEL17 localizes to stage II melanosomes, where its fibrils are coated by melanogenic enzymes such as tyrosinase and TYRP1 during subsequent maturation. Within the skin, gp100 is concentrated in the dendritic extensions of melanocytes, while in the eye, it contributes to the pigmentation and maintenance of the retinal pigment epithelium. Its function ensures the efficient storage and transfer of melanin to keratinocytes, maintaining skin and hair coloration.

Clone PMEL/2038 is a monoclonal antibody designed for specific detection of gp100 in pigment cell systems. It recognizes PMEL17 protein expressed in melanocytes and melanoma tissues and provides reliable labeling of melanosomal structures. The antibody can be used to study pigment cell biology, melanosome formation, and melanoma differentiation. Its specificity for PMEL17 makes it a valuable marker for identifying melanocytic origin in histological and cell-based research.

gp100 has additional importance as a tumor-associated antigen in melanoma immunology. Fragments of PMEL are recognized by cytotoxic T lymphocytes and have been incorporated into peptide-based immunotherapies aimed at enhancing antitumor immune responses. Detection of gp100 expression also assists in classifying pigmented tumors and in studying mechanisms of immune recognition and tumor evasion.

Melanoma gp100 antibody (clone PMEL/2038) is suitable for detecting PMEL expression in melanocytic and melanoma samples, supporting research on pigmentation, tumor biology, and melanosome ultrastructure. NSJ Bioreagents provides Melanoma gp100 antibody (clone PMEL/2038) validated for use in relevant research applications supporting studies in melanoma pathology, pigment cell differentiation, and immunological targeting of melanoma antigens.

Application Notes

Optimal dilution of the Melanoma gp100 antibody should be determined by the researcher.

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).