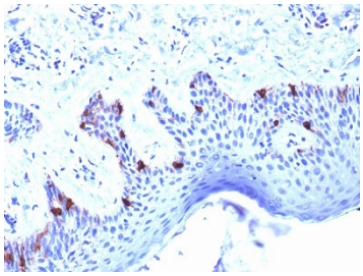
Melanoma gp100 Antibody / PMEL17 [clone PMEL/2039] (V3929)

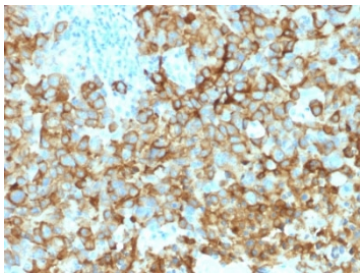
Catalog No.	Formulation	Size
V3929-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3929-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3929SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

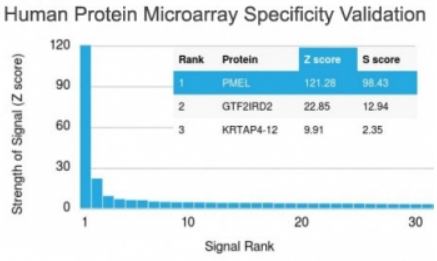
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	PMEL/2039
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	ELISA : 2-4ug/ml (order BSA/azide-free format) 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.



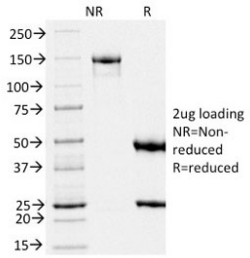
IHC testing of human skin with Melanoma gp100 antibody (clone PMEL/2039). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



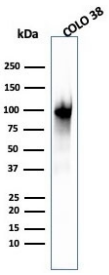
IHC testing of human melanoma with Melanoma gp100 antibody (clone PMEL/2039). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using Melanoma gp100 antibody (clone PMEL/2039). These results demonstrate the foremost specificity of the PMEL/2039 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/2039) as confirmation of integrity and purity.



Western blot testing of human COLO-38 cell lysate with PMEL17 antibody (clone PMEL/2039). 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/2039) detects PMEL17, also known as Melanocyte protein PMEL or premelanosome protein, a pigment-cell glycoprotein that serves as a structural foundation for melanin synthesis within melanosomes. The UniProt recommended name is Melanocyte protein PMEL (PMEL). This integral membrane protein is essential for assembling the internal fibrillar network that defines early melanosome architecture, ultimately supporting pigment accumulation and organelle maturation in melanocytes and melanoma cells.

The PMEL gene, located on chromosome 12q13.2, encodes a type I transmembrane protein that is processed through a tightly regulated maturation pathway. Following translation, PMEL is trafficked through the endoplasmic reticulum and Golgi, where it undergoes heavy glycosylation and proteolytic cleavage. Cleaved fragments aggregate to form amyloid-like fibrils that fill the lumen of immature melanosomes. These fibrils act as templates for melanin polymerization and contribute to the distinct ultrastructural organization of pigment granules. Defects in PMEL processing can result in disrupted melanosome morphology or reduced pigment accumulation.

PMEL expression is controlled by the transcription factor MITF (microphthalmia-associated transcription factor), which

coordinates the transcription of multiple melanogenic genes. As a consequence, PMEL17 expression reflects the differentiation state of pigment cells and is retained in most melanocytic lesions, making gp100 a key diagnostic and research marker for melanoma. In normal skin, PMEL localizes to the melanosomal membrane of dendritic melanocytes, while in the eye it is expressed in the retinal pigment epithelium, where it supports proper pigment granule formation and visual function.

Clone PMEL/2039 is a monoclonal antibody developed for the detection of gp100 in mammalian tissue and cell lysates. It recognizes PMEL17 protein in melanocytes and melanoma cells, showing strong selectivity for pigment cell lineages. This clone provides consistent labeling of melanosomal structures and serves as a reliable tool for investigating pigment biogenesis, melanocytic differentiation, and melanoma progression. Its use extends to studies of melanosome dynamics, pigment transfer, and cellular regulation of melanogenesis.

In addition to its structural function, gp100 is recognized as a melanoma-associated antigen that can elicit cytotoxic T-cell responses. It is used experimentally in vaccine design and immunotherapeutic targeting of melanoma. The selective expression of gp100 in melanocytic tissues also allows researchers to differentiate melanoma from non-melanocytic tumors in histological samples. Detection of gp100 contributes to molecular profiling of tumor subtypes and supports research on immune recognition of pigment cell antigens.

Melanoma gp100 antibody (clone PMEL/2039) is suitable for identifying PMEL17 expression in cell and tissue models relevant to pigmentation and melanoma research. NSJ Bioreagents provides Melanoma gp100 antibody (clone PMEL/2039) validated for use in relevant research applications supporting studies of pigment cell biology, melanosome formation, and melanoma immunopathology.

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).