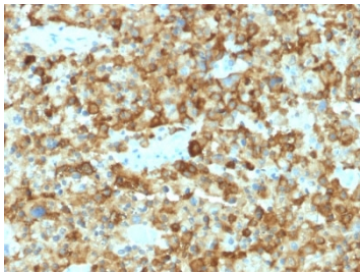
PMEL17 Antibody / Melanoma gp100 [clone PMEL/2037] (V3930)

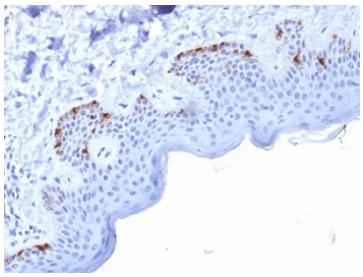
Catalog No.	Formulation	Size
V3930-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3930-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3930SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

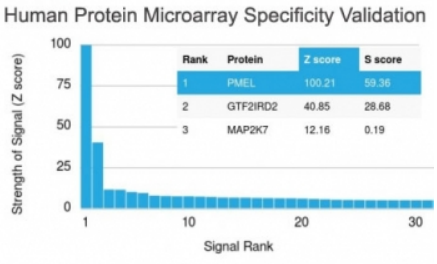
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	PMEL/2037
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	ELISA : 2-4ug/ml (order BSA/azide-free format) Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 1-2ug/ml
Limitations	This PMEL17 antibody is available for research use only.



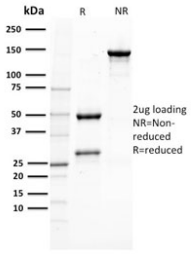
IHC testing of human melanoma with PMEL17 antibody (clone PMEL/2037). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



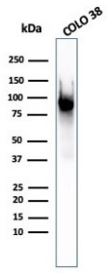
IHC testing of human skin with PMEL17 antibody (clone PMEL/2037). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using PMEL17 antibody (clone PMEL/2037). These results demonstrate the foremost specificity of the PMEL/2037 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 PMEL17 antibody (clone PMEL/2037) as confirmation of integrity and purity.



Western blot testing of human COLO-38 cell lysate with PMEL17 antibody (clone PMEL/2037). 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

PMEL17 antibody (clone PMEL/2037) detects Melanocyte protein PMEL, commonly known as gp100, a pigment cell-specific glycoprotein essential for melanosome formation and pigmentation. The UniProt recommended name is Melanocyte protein PMEL (PMEL). gp100 is a structural component of the premelanosome matrix, where it forms the characteristic fibrillar scaffold required for melanin polymerization and pigment deposition. This transmembrane protein is a defining marker of melanocytic differentiation and is widely used in research related to melanoma biology and pigment cell function.

The PMEL gene, located on chromosome 12q13.2, encodes a type I transmembrane glycoprotein of approximately 100 kDa that undergoes extensive proteolytic and glycosylation processing. After cleavage in the Golgi and endosomal compartments, the luminal domain of PMEL aggregates to create amyloid-like fibrils that line the developing premelanosome (stage II). These fibrils provide a structural template for melanin deposition, transforming immature organelles into fully pigmented melanosomes. PMEL processing is regulated by several proteases, including proprotein convertases and members of the metalloproteinase family, which ensure correct cleavage, sorting, and fibril assembly.

Expression of PMEL17 is restricted to pigment-producing cells, including melanocytes, retinal pigment epithelium, and melanoma cells. The transcription factor MITF (microphthalmia-associated transcription factor) drives its expression as part of the melanogenic program controlling pigment synthesis and cell differentiation. Within the skin, PMEL17 localizes to melanosomes in the dendritic extensions of melanocytes, which transfer pigment granules to neighboring keratinocytes to produce visible coloration. In the eye, it contributes to pigment granule organization in the retinal pigment epithelium, supporting normal visual function.

Clone PMEL/2037 is a monoclonal antibody developed for the detection of PMEL17 in tissue and cell samples. It recognizes gp100 protein expressed in melanocytes and melanoma cells, providing reliable labeling of pigment cell lineages. The antibody can assist in identifying melanocytic differentiation, assessing tumor phenotype, and visualizing melanosome formation in experimental and diagnostic settings. Its specificity for melanocytic structures makes it a useful marker for research into melanogenesis, melanoma progression, and pigment cell pathology.

PMEL17 has long been a target of immunological interest, as peptides derived from gp100 are recognized by cytotoxic T lymphocytes and have been incorporated into cancer immunotherapy strategies. These features underscore the dual significance of PMEL as both a pigment cell differentiation antigen and a tumor-associated marker. Research applications often use PMEL detection to study melanosome biogenesis, subcellular trafficking of pigment organelles, and regulation of melanin synthesis by signaling pathways such as MITF and Wnt.

PMEL17 antibody (clone PMEL/2037) is suitable for detecting PMEL expression in melanocytic cells, melanoma tissue, or pigment organelles. It supports investigations into pigment cell differentiation, melanosome architecture, and melanoma biology. NSJ Bioreagents provides PMEL17 antibody (clone PMEL/2037) validated for use in relevant research applications supporting studies in pigment cell biology, tumor pathology, and immunological recognition of melanoma antigens.

Application Notes

Optimal dilution of the PMEL17 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 PMEL17 antibody.

Storage

Store the PMEL17 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).