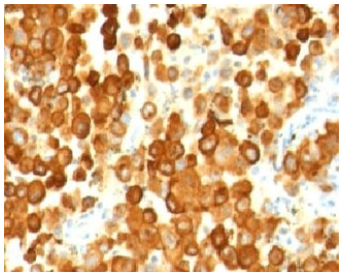
PMEL17 Antibody / Melanoma gp100 [clone PMEL/783] (V2856)

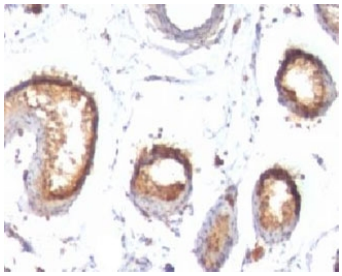
Catalog No.	Formulation	Size
V2856-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2856-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2856SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2856IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

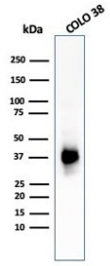
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	PMEL/783
Purity	Protein G affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT (1) (2)
Limitations	This PMEL17 antibody is available for research use only.



IHC: Formalin-fixed, paraffin-embedded human melanoma stained with PMEL17 antibody (PMEL/783).



IHC: Formalin-fixed, paraffin-embedded human testis stained with PMEL17 antibody (PMEL/783).



Western blot testing of human COLO-38 cell lysate with PMEL17 antibody (clone PMEL/783). 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/783) detects Melanocyte protein PMEL, also known as gp100 or premelanosome protein, a pigment cell-specific glycoprotein required for normal melanosome morphogenesis and melanin deposition. The UniProt recommended name is Melanocyte protein PMEL (PMEL). gp100 functions as a structural scaffold within developing melanosomes, forming the fibrillar framework that supports pigment polymerization and granule maturation in melanocytes and melanoma cells.

The PMEL gene, located on chromosome 12q13.2, encodes a type I transmembrane protein of approximately 100 kDa that undergoes multiple processing events during its biosynthetic pathway. After translation, PMEL is glycosylated and cleaved by proprotein convertases in the trans-Golgi network, generating luminal fragments that self-assemble into amyloid-like fibrils. These fibrils line the interior of stage II premelanosomes, providing the structural platform on which melanin is synthesized by melanogenic enzymes such as tyrosinase and TYRP1. Correct PMEL processing and fibril assembly are essential for maintaining melanosome integrity and pigment homeostasis.

PMEL17 expression is restricted to pigment-producing cells including melanocytes, retinal pigment epithelial cells, and melanoma cells. Its transcription is activated by MITF (microphthalmia-associated transcription factor), a master regulator of melanocytic differentiation. Within the skin, gp100 localizes to melanosomes in the dendritic extensions of melanocytes, facilitating the transfer of pigment granules to surrounding keratinocytes. In the eye, it contributes to the formation of the pigmented layers necessary for normal visual function. Disruption of PMEL function can lead to altered pigmentation and melanosome morphology, underscoring its structural importance.

Clone PMEL/783 is a monoclonal antibody developed for the detection of gp100 in mammalian tissues and cultured cells. It recognizes PMEL17 expressed in pigment cell lineages and provides strong, specific labeling of melanosomal structures. This antibody can be applied in studies examining pigment biosynthesis, melanocytic differentiation, and tumor characterization in melanoma. Because gp100 expression is tightly linked to the melanocytic phenotype, PMEL17 detection is a reliable marker for identifying melanocytic origin in tissue sections and research models.

Beyond its structural role, gp100 serves as a melanoma-associated antigen recognized by cytotoxic T lymphocytes, making it an important molecule in cancer immunology. gp100-derived peptides have been investigated in immunotherapy and vaccine research for their potential to elicit tumor-specific immune responses. Expression analysis of PMEL17 also assists in distinguishing melanoma from other tumor types and in understanding mechanisms of immune recognition, differentiation, and pigment cell transformation.

PMEL17 antibody (clone PMEL/783) is suitable for detecting gp100 expression in cell or tissue samples related to pigmentation and melanoma research. NSJ Bioreagents provides PMEL17 antibody (clone PMEL/783) validated for use in relevant research applications supporting studies in pigment cell biology, melanoma pathology, and melanosome biogenesis.

Application Notes

Optimal dilution of the PMEL17 antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant 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).