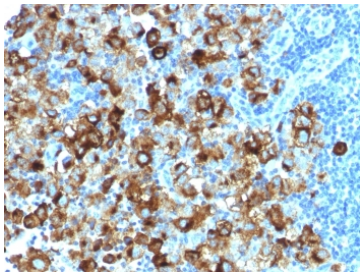
Recombinant gp100 Antibody / PMEL17 / Rabbit Monoclonal [clone PMEL/1825R] (V3472)

Catalog No.	Formulation	Size
V3472-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3472-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3472SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3472IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

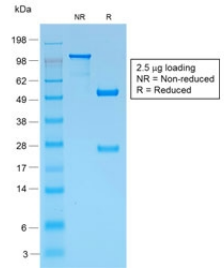
Recombinant RABBIT MONOCLONAL

Bulk quote request

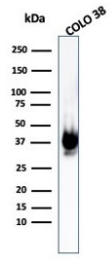
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	PMEL/1825R
Purity	Protein A affinity chromatography
UniProt	P40967
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT Western Blot : 1-2ug/ml
Limitations	This recombinant gp100 antibody is available for research use only.



IHC testing of FFPE human melanoma with recombinant gp100 antibody (clone PMEL/1825R). Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min.



SDS-PAGE analysis of purified, BSA-free recombinant gp100 antibody (clone PMEL/1825R) as confirmation of integrity and purity.



Western blot testing of human COLO-38 cell lysate with recombinant gp100 antibody (clone PMEL/1825R). 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

Recombinant gp100 antibody (clone PMEL/1825R) detects gp100, also known as PMEL17 or premelanosome protein, a melanocyte-specific glycoprotein involved in melanosome structure and melanin biosynthesis. The UniProt recommended name is Melanocyte protein PMEL (PMEL). gp100 is a type I transmembrane protein expressed in pigment cells of the skin, eye, and inner ear. It serves as a critical structural component of the premelanosome matrix, where it organizes the internal fibrillar scaffold upon which melanin is deposited.

The PMEL gene, located on chromosome 12q13.2, encodes a precursor of approximately 661 amino acids that undergoes complex proteolytic and glycosylation processing in the Golgi and endosomal compartments. After cleavage, the N-terminal luminal domain forms amyloid-like fibrils that line the developing premelanosome (stage II), providing the architecture for melanin polymerization. The C-terminal transmembrane fragment remains membrane-associated and participates in vesicle trafficking and structural stabilization.

Functionally, gp100 contributes to proper melanosome formation and pigmentation by guiding melanin synthesis and storage. Disruption of PMEL processing impairs pigment deposition and can lead to abnormal melanosome morphology. gp100 interacts with other melanogenic proteins including tyrosinase, TYRP1, and MART-1, coordinating the maturation and transport of pigment granules to the cell periphery. Its expression is regulated by MITF (microphthalmia-associated transcription factor), a master regulator of melanocyte differentiation and pigmentation genes.

Because gp100 is specifically expressed in melanocytes and melanoma cells, it serves as an established differentiation marker and immunotherapeutic target in melanoma research. The PMEL17/gp100 antigen is recognized by cytotoxic T lymphocytes, and peptides derived from gp100 are utilized in cancer immunotherapy and vaccine development to elicit anti-melanoma immune responses. Expression of gp100 in tumor cells also aids in histopathologic classification of melanocytic lesions and detection of micrometastatic disease.

Clone PMEL/1825R is a recombinant monoclonal antibody designed for sensitive and specific detection of gp100 in cell and tissue samples. It recognizes PMEL17 protein expressed in melanocytes and melanoma cells, providing reliable labeling of pigment cell lineages. The recombinant format offers consistent lot-to-lot performance and minimized background reactivity. Recombinant gp100 antibody (clone PMEL/1825R) can be used to identify melanocytic differentiation, assess tumor phenotype, or monitor pigment cell activity under physiological and pathological conditions.

In the skin, gp100 localizes to the melanosomal membrane and accumulates in dendritic extensions of melanocytes that transfer pigment to keratinocytes. In the eye, it is expressed in the retinal pigment epithelium and uveal melanocytes,

contributing to normal visual pigment maintenance. Dysregulation of gp100 expression or processing has been implicated in pigmentary disorders and melanoma progression, where altered fibril formation or trafficking may affect cell survival and immune recognition.

Recombinant gp100 antibody (clone PMEL/1825R) is suitable for detecting PMEL17 expression in melanoma tissues, pigment cell lines, or developmental models of melanogenesis. It enables detailed visualization of melanosomal structure and pigmentation pathways. NSJ Bioreagents provides Recombinant gp100 antibody (clone PMEL/1825R) validated for use in relevant research applications supporting studies in melanoma biology, pigmentation, and immunotherapy development.

Application Notes

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

1. 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 recombinant gp100 antibody.

Storage

Store the recombinant gp100 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).