

GPNMB (D-9): sc-271415

BACKGROUND

Transmembrane glycoprotein NMB (GPNMB), also designated hematopoietic growth factor inducible neurokinin-1 (HGFIN), is a single-pass type I membrane protein. Belonging to the Pmel-17/NMB family of proteins, GPNMB acts as a melanogenic enzyme. GPNMB expression is not restricted to cells of melanocytic lineage and is highest in poorly metastatic melanoma cell lines. There is no expression of GPNMB in highly metastatic melanoma cell lines. GPNMB may play a important role in lymphohematopoietic stem cell maturation.

REFERENCES

1. Safadi, F.F., et al. 2001. Cloning and characterization of osteoactivin, a novel cDNA expressed in osteoblasts. *J. Cell. Biochem.* 84: 12-26.
2. Anderson, M.G., et al. 2002. Mutations in genes encoding melanosomal proteins cause pigmentary glaucoma in DBA/2J mice. *Nat. Genet.* 30: 81-85.

CHROMOSOMAL LOCATION

Genetic locus: GPNMB (human) mapping to 7p15.3.

SOURCE

GPNMB (D-9) is a mouse monoclonal antibody raised against amino acids 38-158 mapping near the N-terminus of GPNMB of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPNMB (D-9) is available conjugated to agarose (sc-271415 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271415 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271415 PE), fluorescein (sc-271415 FITC), Alexa Fluor® 488 (sc-271415 AF488), Alexa Fluor® 546 (sc-271415 AF546), Alexa Fluor® 594 (sc-271415 AF594) or Alexa Fluor® 647 (sc-271415 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271415 AF680) or Alexa Fluor® 790 (sc-271415 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GPNMB (D-9) is recommended for detection of GPNMB isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPNMB siRNA (h): sc-60721, GPNMB shRNA Plasmid (h): sc-60721-SH and GPNMB shRNA (h) Lentiviral Particles: sc-60721-V.

Molecular Weight of GPNMB: 64 kDa.

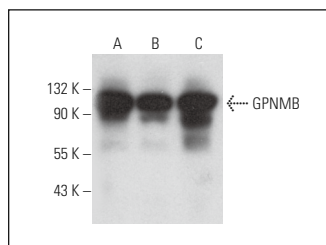
Molecular Weight of glycosylated GPNMB: 110-130 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, A-375 cell lysate: sc-3811 or C32 whole cell lysate: sc-2205.

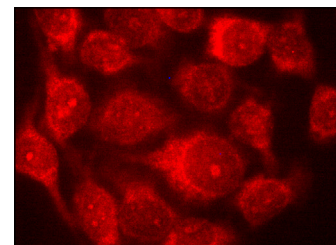
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GPNMB (D-9): sc-271415. Western blot analysis of GPNMB expression in SK-MEL-28 (A), C32 (B) and A-375 (C) whole cell lysates.



GPNMB (D-9): sc-271415. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Smuczek, B., et al. 2017. The laminin-derived peptide C16 regulates GPNMB expression and function in breast cancer. *Exp. Cell Res.* 358: 323-334.
2. Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. *Genes* 13: 659.
3. Vasilevska, J., et al. 2024. Monitoring melanoma patients on treatment reveals a distinct macrophage population driving targeted therapy resistance. *Cell Rep. Med.* 5: 101611.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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