

Store at
-20°C

#38313

GPNMB (E4D7P) XP® Rabbit mAb

Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

Orders: 877-616-2355 (U.S.)
orders@cellsignal.com

Entrez-Gene ID #10457
UniProt ID #Q14956

New 11/17

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications
W, IP, IHC-P
Endogenous

Species Cross-Reactivity*
H

Molecular Wt.
95, 120 kDa

Isotype
Rabbit IgG**

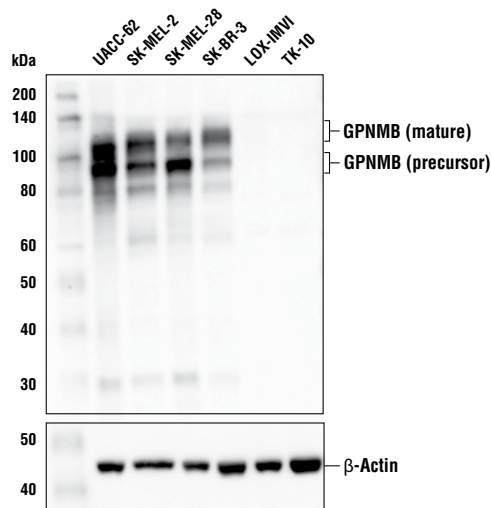
Background: Glycoprotein non-metastatic gene B (GPNMB) is a type I transmembrane glycoprotein over expressed in many types of cancer. The GPNMB glycoprotein is involved in many physiological processes, including mediating transport of late melanosomes to keratinocytes (1), regulating osteoblast and osteoclast differentiation and function (2), stimulating dendritic cell maturation, promoting adhesion of dendritic cells to endothelial cells (3), enhancing autophagosome fusion to lysosomes in tissue repair, and regulating degradation of cellular debris (4,5).

While typical GPNMB expression is seen in tissues including skin, heart, kidney, lung, liver, and skeletal muscle (3,6), research studies show elevated GPNMB expression often contributes to the metastatic phenotype in numerous cancers (reviewed in 7). GPNMB is typically localized to intracellular compartments in normal cells (1,8), but investigators found it primarily on the cell surface of tumor cells (9,10). Differential localization and expression, and the role of GPNMB as a tumor promoter in many cancer types make this protein a viable therapeutic target (11).

The GPNMB ectodomain can be cleaved by matrix metalloproteinases and shed from the cell surface (12). Research studies identify the sheddase ADAM10 as one peptidase responsible for cleavage of the GPNMB ectodomain at the surface of breast cancer cells. Shedded GPNMB ectodomains may promote angiogenesis by inducing endothelial cell migration (13).

Specificity/Sensitivity: GPNMB (E4D7P) XP® Rabbit mAb recognizes endogenous levels of total GPNMB protein. Based upon sequence alignment, this antibody is not predicted to cross-react with PMEL.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human GPNMB protein.



Western blot analysis of extracts from various cell lines using GPNMB (E4D7P) XP® Rabbit mAb (upper) and β-Actin (D6A8) Rabbit mAb #8457 (lower). As expected, GPNMB protein is not detected in either LOX-IMVI or TK-10 cells.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:500†
Unmasking buffer:	SignalStain® Citrate Unmasking Solution (10X) #14746
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114
†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.	

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

- (1) Tomihari, M. et al. (2009) *Exp Dermatol* 18, 586-95.
- (2) Sheng, M.H. et al. (2012) *PLoS One* 7, e35280.
- (3) Shikano, S. et al. (2001) *J Biol Chem* 276, 8125-34.
- (4) Li, B. et al. (2010) *FASEB J* 24, 4767-81.
- (5) Patel-Chamberlin, M. et al. (2011) *Kidney Int* 79, 1138-48.
- (6) Bandari, P.S. et al. (2003) *Regul Pept* 111, 169-78.
- (7) Maric, G. et al. (2013) *Oncotargets Ther* 6, 839-52.
- (8) Ripoll, V.M. et al. (2007) *J Immunol* 178, 6557-66.
- (9) Tse, K.F. et al. (2006) *Clin Cancer Res* 12, 1373-82.
- (10) Rose, A.A. et al. (2010) *Clin Cancer Res* 16, 2147-56.
- (11) Keir, C.H. and Vahdat, L.T. (2012) *Expert Opin Biol Ther* 12, 259-63.
- (12) Furochi, H. et al. (2007) *FEBS Lett* 581, 5743-50.
- (13) Rose, A.A. et al. (2010) *PLoS One* 5, e12093.

Tween is a registered trademark of ICI Americas, Inc.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

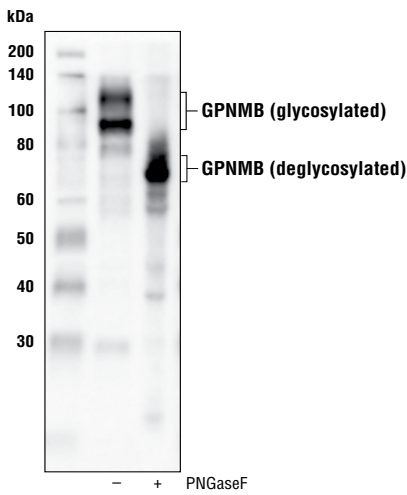
Thank you for your recent purchase. If you would like to provide a review visit cellsignal.com/comments.

www.cellsignal.com

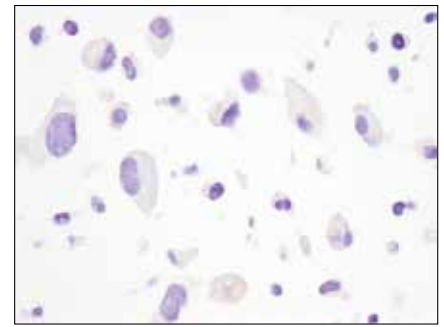
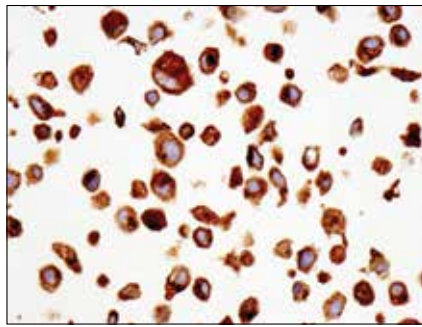
© 2017 Cell Signaling Technology, Inc.

XP, SignalStain, and Cell Signaling Technology are trademarks of Cell Signaling Technology, Inc.

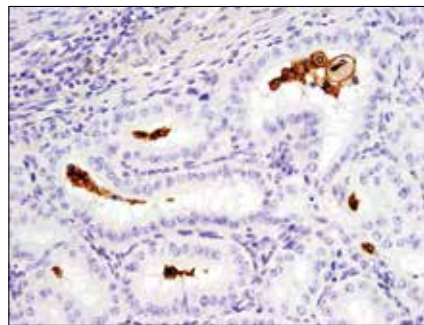
Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species** enclosed in parentheses are predicted to react based on 100% homology.



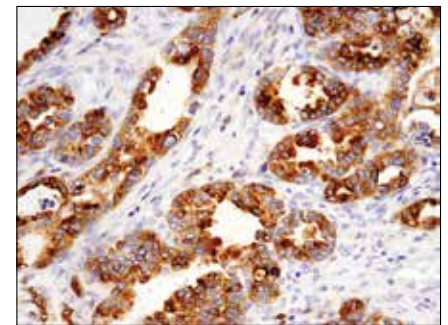
Western blot analysis of extracts from UACC-62 cells, untreated (-) or treated with PNGaseF (+), using GPNMB (E4D7P) XP[®] Rabbit mAb.



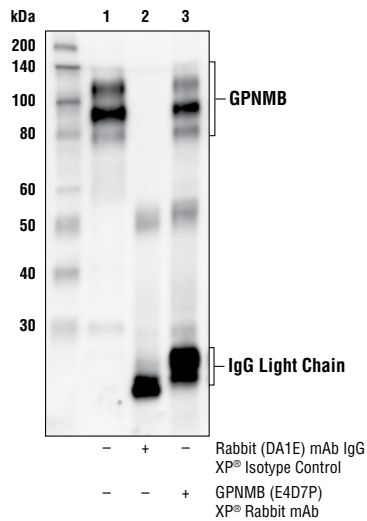
Immunohistochemical analysis of paraffin-embedded UACC-62 cell pellet (left, positive) or LOX-IMVI cell pellet (right, negative) using GPNMB (E4D7P) XP[®] Rabbit mAb.



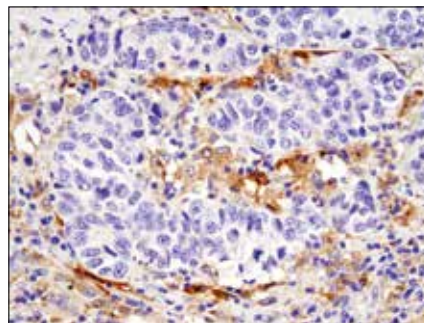
Immunohistochemical analysis of paraffin-embedded human endometrioid adenocarcinoma using GPNMB (E4D7P) XP[®] Rabbit mAb.



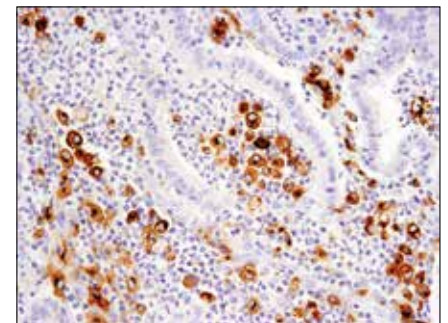
Immunohistochemical analysis of paraffin-embedded human ovarian clear cell carcinoma using GPNMB (E4D7P) XP[®] Rabbit mAb.



Immunoprecipitation of GPNMB from SK-MEL-28 cell extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP[®] Isotype Control #3900, and lane 3 is GPNMB (E4D7P) XP[®] Rabbit mAb. Western blot analysis was performed using GPNMB (E4D7P) XP[®] Rabbit mAb. Anti-Rabbit HRP-conjugated light chain-specific secondary antibody was used for detection.



Immunohistochemical analysis of paraffin-embedded human non-small cell lung carcinoma using GPNMB (E4D7P) XP[®] Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using GPNMB (E4D7P) XP[®] Rabbit mAb.

Thank you for your recent purchase. If you would like to provide a review visit [cellsignal.com/comments](https://www.cellsignal.com/comments).

www.cellsignal.com