

#38313 Store at -20°C

GNPMB (E4D7P) XP® Rabbit mAb



Cell Signaling
TECHNOLOGY®

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

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IHC-P	H	Endogenous	95, 120	Rabbit IgG	#Q14956	10457

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:50
1:500

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.

Specificity / Sensitivity

GNPMB (E4D7P) XP® Rabbit mAb recognizes endogenous levels of total GNPMB 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 GNPMB protein.

Background

Glycoprotein non-metastatic gene B (GNPMB) is a type I transmembrane glycoprotein overexpressed in many types of cancer. The GNPMB 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 GNPMB expression is seen in tissues including skin, heart, kidney, lung, liver, and skeletal muscle (3,6), research studies show elevated GNPMB expression often contributes to the metastatic phenotype in numerous cancers (reviewed in 7). GNPMB 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 GNPMB as a tumor promoter in many cancer types make this protein a viable therapeutic target (11).

The GNPMB 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 GNPMB ectodomain at the surface of breast cancer cells. Shedded GNPMB ectodomains may promote angiogenesis by inducing endothelial cell migration (13).

Background References

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

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

SignalStain is a registered trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.