Revision 6

Store at -20C

#20292

Grp94 (D6X2Q) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P, IF-IC	H M R Mk	Endogenous	100	Rabbit IgG	#P14625	7184

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:800
Immunofluorescence (Immunocytochemistry)	1:50

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.

For a carrier free (BSA and azide free) version of this product see product #18133.

Specificity/Sensitivity

Grp94 (D6X2Q) XP® Rabbit mAb recognizes endogenous levels of total Grp94 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu397 of human Grp94 protein.

Background

Secretory proteins are synthesized on polysomes and translocated into the endoplasmic reticulum (ER). Inside ER, these proteins are often modified by disulfide bond formation, amino-linked glycosylation and folding. The ER contains a pool of molecular chaperones, including Grp94, to help ensure correct protein folding. Grp94 is a glucose-regulated protein (1) with sequence homology to Hsp90 (2). In addition to its role in helping to facilitate folding of a number of secretory proteins to their correct conformation (3), studies suggest that Grp94 derived from cancer cells also induces anti-tumor immune responses in mouse tumor models (4, 5). One way in which Grp94 promotes tumor immunogenicity is its ability to bind to and present tumor-derived peptides as antigens (6). Furthermore, Grp94 has also been shown to induce maturation of dendritic cells (7). Taken together, Grp94 functions both as a tumor-specific antigen and as an activator of antigen-presenting cells to elicit an anti-cancer immune response (8).

Background References

1. Lee, A.S. et al. (1981) *Proc. Natl. Acad. Sci. USA* 78, 4922-4925.
2. Sorger, P.K. and Pelham, H.R. (1987) *J. Mol. Biol.* 194, 341-344.
3. Argon, Y. and Simen, B.B. (1999) *Semin. Cell Dev. Biol.* 10, 495-505.
4. Blachere, N.E. et al. (1997) *J. Exp. Med.* 186, 1315-1322.
5. Tamura, Y. et al. (1997) *Science* 278, 117-120.
6. Schild, H. and Rammensee, H.G. (2000) *Nat. Immunol.* 1, 100-101.
7. Singh-Jasuja, H. et al. (2000) *Eur. J. Immunol.* 30, 2211-2215.
8. Nicchitta, C.V. et al. (2004) *Cell Stress Chaperones* 9, 325-331.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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