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Grp94 (D6X2Q) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate)

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

Applications: IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P14625	Entrez-Gene Id: 7184
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Product Usage Information

Application

Immunofluorescence (Immunocytochemistry)

Dilution

1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

Grp94 (D6X2Q) XP[®] Rabbit mAb (Alexa Fluor[®] 488 Conjugate) 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.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor[®] 488 fluorescent dye and tested in-house for direct immunofluorescence analysis of human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated Grp94 (D6X2Q) XP[®] Rabbit mAb #20292.

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).

Applications Key

IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

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

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