Revision 5

#59212 Store at -20C

IFITM3 (D8E8G) 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:
WB, W-S, IP, IHC-P	H	Endogenous	15	Rabbit IgG	#Q01628	10410

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:200
Immunohistochemistry (Paraffin)	1:125 - 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.

For a carrier free (BSA and azide free) version of this product see product #74766.

Specificity / Sensitivity

IFITM3 (D8E8G) XP® Rabbit mAb recognizes endogenous levels of total IFITM3 protein. This antibody does not cross-react with IFITM1 or IFITM2 proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val5 of human IFITM3 protein.

Background

Interferon-induced transmembrane protein (IFITM) family members are composed of short amino- and carboxy-termini, two transmembrane domains, and a cytoplasmic domain (1). There are four family members in humans: IFITM1, IFITM2, IFITM3, and IFITM5 (2,3). Mice have two additional family members, IFITM6 and IFITM7 (2,3). Basal expression of IFITM proteins is observed in some cells and expression can also be induced by type I and type II interferons (4-6). The primary function of IFITM family proteins appears to be viral restriction, as IFITM proteins inhibit cytosolic entry of viruses by preventing fusion of viral and host membranes (7,8). The mechanism by which IFITM proteins inhibit fusion is unclear. Although IFITM proteins are present on both the plasma membrane and intracellular membranes, they most effectively restrict viral fusion in late endosomes and lysosomes (8,9). In addition, different family members exhibit specific viral preferences (9). For example, IFITM3 is most effective at restricting influenza A infection, while IFITM1 is more successful in controlling filoviruses and SARS (9,10).

Background References

1. Diamond, M.S. and Farzan, M. (2013) *Nat Rev Immunol* 13, 46-57.
2. Lange, U.C. et al. (2003) *BMC Dev Biol* 3, 1.
3. Hickford, D. et al. (2012) *BMC Genomics* 13, 155.
4. Reid, L.E. et al. (1989) *Proc Natl Acad Sci U S A* 86, 840-4.
5. Lewin, A.R. et al. (1991) *Eur J Biochem* 199, 417-23.
6. Friedman, R.L. et al. (1984) *Cell* 38, 745-55.
7. Brass, A.L. et al. (2009) *Cell* 139, 1243-54.
8. Feeley, E.M. et al. (2011) *PLoS Pathog* 7, e1002337.
9. Huang, I.C. et al. (2011) *PLoS Pathog* 7, e1001258.
10. Everitt, A.R. et al. (2012) *Nature* 484, 519-23.

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 **W-S:** Simple Western™ **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

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Limited Uses