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IFITM1 Antibody

Catalog # ASC11148

Product Information

Application	WB, E
Primary Accession	P13164
Other Accession	NP_003632, 150010589
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	13964
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IFITM1 antibody can be used for detection of IFITM1 by Western blot at 2.5 - 5 g/mL.

Additional Information

Gene ID	8519
Other Names	Interferon-induced transmembrane protein 1, Dispanin subfamily A member 2a, DSPA2a, Interferon-induced protein 17, Interferon-inducible protein 9-27, Leu-13 antigen, CD225, IFITM1, CD225, IFI17
Target/Specificity	IFITM1;
Reconstitution & Storage	IFITM1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	IFITM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IFITM1 (HGNC:5412)
Synonyms	CD225, IFI17
Function	IFN-induced antiviral protein which inhibits the entry of viruses to the host cell cytoplasm, permitting endocytosis, but preventing subsequent viral fusion and release of viral contents into the cytosol. Active against multiple viruses, including influenza A virus, SARS coronaviruses (SARS-CoV and SARS-CoV-2), Marburg virus (MARV), Ebola virus (EBOV), Dengue virus (DNV), West Nile virus (WNV), human immunodeficiency virus type 1 (HIV-1) and hepatitis C virus (HCV) (PubMed:26354436, PubMed:33270927). Can inhibit: influenza virus

	hemagglutinin protein-mediated viral entry, MARV and EBOV GP1,2- mediated viral entry and SARS-CoV and SARS-CoV-2 S protein-mediated viral entry. Also implicated in cell adhesion and control of cell growth and migration (PubMed:33270927). Inhibits SARS-CoV-2 S protein- mediated syncytia formation (PubMed:33051876). Plays a key role in the antiproliferative action of IFN-gamma either by inhibiting the ERK activation or by arresting cell growth in G1 phase in a p53-dependent manner. Acts as a positive regulator of osteoblast differentiation. In hepatocytes, IFITM proteins act in a coordinated manner to restrict HCV infection by targeting the endocytosed HCV virion for lysosomal degradation (PubMed:26354436). IFITM2 and IFITM3 display anti-HCV activity that may complement the anti-HCV activity of IFITM1 by inhibiting the late stages of HCV entry, possibly in a coordinated manner by trapping the virion in the endosomal pathway and targeting it for degradation at the lysosome (PubMed:26354436).
Cellular Location	Cell membrane; Single-pass membrane protein. Lysosome membrane
Tissue Location	Bone (at protein level). Levels greatly elevated in colon cancer, cervical cancer, esophageal cancer and ovarian cancer Expressed in glioma cell lines.

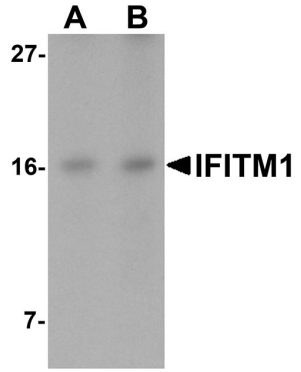
Background

IFITM1 Antibody: IFITM1 (Interferon inducible transmembrane protein 1) is a member of the IFN-inducible transmembrane protein family. It is an essential mediator of interferon-gamma-induced antiproliferation and plays a role in the control of cell growth. IFITM1 is upregulated in several tumor types and may be useful as a tumor biomarker. Both mouse IFITM1 and IFITM3 are expressed on the cell surfaces of primordial germ cells in a developmentally-regulated manner. IFITM1 activity is required for primordial germ cell transit, and IFITM1 acts as a repulsive molecule by repelling non-IFITM1-expressing primordial germ cells from the mesoderm into the endoderm.

References

Deblandre GA, Marinx OP, Evans SS, et al. Expression cloning of an interferon-inducible 17 kDa membrane protein implicated in the control of cell growth. J. Biol. Chem.1995; 270:23860-6.
Yang G, Xu Y, Chen X, et al. IFITM1 plays an essential role in the antiproliferative action of interferon-gamma. Oncogene.2007; 26:594-603.
Akyerli CB, Beksac M, Holko M, et al. Expression of IFITM1 in chronic myeloid leukemia patients. Leuk. Res.2005; 29:283-6.
Tanaka SS, Yamaguchi YL, Tsoi B, et al. IFITM/Mil/Fragilis family proteins IFITM1 and IFITM3 play distinct roles in mouse primordial germ cell homing and repulsion. Cell 2005; 9:745-6.

Images



Western blot analysis of IFITM1 in Jurkat cell lysate with IFITM1 antibody at (A) 2.5 and (B) 5 µg/mL.