

IFITM1/2/3 (F-12): sc-374026

BACKGROUND

Interferons (IFNs) are potential antitumor agents, as they exhibit antiproliferative and differentiating properties, in addition to functioning in the defense against microbial infections. IFN exposure induces the regulation of expression levels of cellular proteins that mediate the pleiotropic effects of interferons. These effects may be mediated by soluble factors or by cell-cell interactions involving specific membrane proteins. The IFITM family of proteins are transmembrane proteins so named because their expression is IFN-inducible. IFITM proteins have been found upregulated in human colorectal carcinomas. Both mouse IFITM1 (also known as CD225) and IFITM3 demonstrate expression on the cell surfaces of primordial germ cells in a developmentally-regulated manner. They presumably modulate cell adhesion and influence cell differentiation. 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

1. Reid, L.E., et al. 1989. A single DNA response element can confer inducibility by both α - and γ -interferons. *Proc. Natl. Acad. Sci. USA* 86: 840-844.
2. Deblandre, G.A., et al. 1995. Expression cloning of an interferon-inducible 17-kDa membrane protein implicated in the control of cell growth. *J. Biol. Chem.* 270: 23860-23866.
3. Perry, D.J., et al. 1999. Cloning of interferon-stimulated gene 17: the promoter and nuclear proteins that regulate transcription. *Mol. Endocrinol.* 13: 1197-1206.

CHROMOSOMAL LOCATION

Genetic locus: IFITM1/IFITM2/IFITM3 (human) mapping to 11p15.5.

SOURCE

IFITM1/2/3 (F-12) is a mouse monoclonal antibody raised against amino acids 1-125 representing full length IFITM1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFITM1/2/3 (F-12) is available conjugated to agarose (sc-374026 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374026 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374026 PE), fluorescein (sc-374026 FITC), Alexa Fluor® 488 (sc-374026 AF488), Alexa Fluor® 546 (sc-374026 AF546), Alexa Fluor® 594 (sc-374026 AF594) or Alexa Fluor® 647 (sc-374026 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374026 AF680) or Alexa Fluor® 790 (sc-374026 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IFITM1/2/3 (F-12) is recommended for detection of IFITM1, IFITM2 and IFITM3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

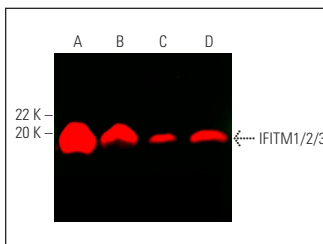
Molecular Weight of IFITM1/2/3: 17 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

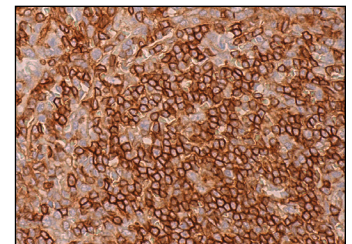
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IFITM1/2/3 (F-12): sc-374026. Near-infrared western blot analysis of IFITM1/2/3 expression in K-562 (A), MEG-01 (B) and HeLa (C) whole cell lysates and human spleen tissue extract (D). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 790: sc-516181.



IFITM1/2/3 (F-12): sc-374026. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of cells in white pulp and cells in red pulp.

SELECT PRODUCT CITATIONS

1. Fu, Y., et al. 2017. IFITM1 suppresses expression of human endogenous retroviruses in human embryonic stem cells. *FEBS Open Bio* 7: 1102-1110.
2. Escher, T.E., et al. 2019. Interaction between MUC1 and Stat1 drives IFITM1 overexpression in aromatase inhibitor-resistant breast cancer cells and mediates estrogen-induced apoptosis. *Mol. Cancer Res.* E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.