SANTA CRUZ BIOTECHNOLOGY, INC.

IFITM1/2/3 (S-15): sc-131566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Fragilis (also known as 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

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2. Tanaka, S.S., et al. 2005. IFITM/MIL/Fragilis family proteins IFITM1 and IFITM3 play distinct roles in mouse primordial germ cell homing and repulsion. Dev. Cell 9: 745-756.
3. Andreu, P., et al. 2006. Identification of the IFITM family as a new molecular marker in human colorectal tumors. Cancer Res. 66: 1949-1955.
4. Johnson, M.C., et al. 2006. Cloning and characterization of two genes encoding rainbow trout homologues of the IFITM protein family. Vet. Immunol. Immunopathol. 110: 357-362.
5. Cuddapah, S., et al. 2008. Transcriptional enhancer factor 1 (TEF-1/TEAD1) mediates activation of IFITM3 gene by BRGI. FEBS Lett. 582: 391-397.
6. Lange, U.C., et al. 2008. Normal germ line establishment in mice carrying a deletion of the IFITM/Fragilis gene family cluster. Mol. Cell. Biol. 28: 4688-4696.
7. Brass, A.L., et al. 2009. The IFITM proteins mediate cellular resistance to influenza A H1N1 virus, West Nile virus, and dengue virus. Cell 139: 1243-1254.
8. Seo, G.S., et al. 2010. Identification of the polymorphisms in IFITM3 gene and their association in a Korean population with ulcerative colitis. Exp. Mol. Med. 42: 99-104.

CHROMOSOMAL LOCATION

Genetic locus: IFITM1/2/3 (human) mapping to 11p15.5.

SOURCE

IFITM1/2/3 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IFITM2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131566 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IFITM1/2/3 (S-15) is recommended for detection of IFITM1, IFITM2 and IFITM3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with family member IFITM5.

IFITM1/2/3 (S-15) is also recommended for detection of IFITM1, IFITM2 and IFITM3 in additional species, including porcine.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.