SANTA CRUZ BIOTECHNOLOGY, INC.

IFITM3 (F-41): sc-100768

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IFITM3 (interferon induced transmembrane protein 3), also known as 1-8U or IP15, is a multi-pass membrane protein that belongs to the IFITM (interferon inducible transmembrane) family of proteins. IFITM proteins are induced by type I and type II interferons and contain multiple interferon (IFN)-stimulated response elements (ISREs) in their promoter regions. IFITM proteins play important roles in many cellular processes and their expression requires the presence of the chromatin remodeling SWI/SNF-like BAF complexes. Cellular processes involving IFITM proteins include cellular anti-proliferative activities and homotypic cell adhesion functions of interferons. In addition, IFITM genes are often upregulated in various cancer cells, suggesting a possible role in carcinogenesis. Localizing to the membrane, IFITM3 is a 133 amino acid protein that is induced by IFN-α and IFN-γ. IFITM3 expression can be regulated by TEF-1, Brg-1 and Sp1.

REFERENCES

1. Lewin, A.R., et al. 1991. Molecular analysis of a human interferon-inducible gene family. Eur. J. Biochem. 199: 417-423.
2. Pru, J.K., et al. 2001. Pregnancy and interferon-τ upregulate gene expression of members of the 1-8 family in the bovine uterus. Biol. Reprod. 65: 1471-1480.
3. Liu, H., et al. 2002. Maximal induction of a subset of interferon target genes requires the chromatin-remodeling activity of the BAF complex. Mol. Cell. Biol. 22: 6471-6479.

CHROMOSOMAL LOCATION

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

SOURCE

IFITM3 (F-41) is a mouse monoclonal antibody raised against recombinant IFITM3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IFITM3 (F-41) is recommended for detection of IFITM3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for IFITM3 siRNA (h): sc-97053, IFITM3 shRNA Plasmid (h): sc-97053-SH and IFITM3 shRNA (h) Lentiviral Particles: sc-97053-V.

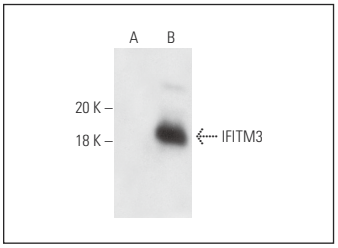
Molecular Weight of IFITM3: 14 kDa.

Positive Controls: IFITM3 (h): 293T Lysate: sc-110589 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



IFITM3 (F-41): sc-100768. Western blot analysis of IFITM3 expression in non-transfected: sc-117752 (**A**) and human IFITM3 transfected: sc-110589 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Feng, J., et al. 2018. Interferon-stimulated gene (ISG)-expression screening reveals the specific antibunyaviral activity of ISG20. J. Virol. 92: e02140-17.
2. D'Amico, R., et al. 2023. Mechanism of action of natural compounds in peripheral multiorgan dysfunction and hippocampal neuroinflammation induced by sepsis. Antioxidants 12: 635.
3. Sim, K.Y., et al. 2023. Mycoplasma fermentans infection induces human necrotic neuronal cell death via IFITM3-mediated Amyloid-β (1-42) deposition. Sci. Rep. 13: 6864.
4. Li, J., et al. 2023. Porcine reproductive and respiratory syndrome virus degrades DDX10 via SQSTM1/p62-dependent selective autophagy to antagonize its antiviral activity. Autophagy 19: 2257-2274.

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 for detailed protocols and support products.