SANTA CRUZ BIOTECHNOLOGY, INC.

IFITM5 (K-14): sc-168126

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 which are named as such because their expression is IFN-inducible. IFITM proteins have been found to be upregulated in human colorectal carcinomas. IFITM5 (interferon-induced transmembrane protein 5), also known as BRIL (bone-restricted interferon-induced transmembrane protein-like protein), is a 132 amino acid multi-pass membrane protein belonging to the CD225 family. The peak of IFITM5 expression occurs during the early mineralization stage during the osteoblast maturation process. IFITM5 plays a role in bone mineralization.

REFERENCES

1. Lewin, A.R., et al. 1991. Molecular analysis of a human interferon-inducible gene family. Eur. J. Biochem. 199: 417-423.
2. Lange, U.C., et al. 2003. The fragilis interferon-inducible gene family of transmembrane proteins is associated with germ cell specification in mice. BMC Dev. Biol. 3: 1.
3. 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.
4. Moffatt, P., et al. 2008. Bril: a novel bone-specific modulator of mineralization. J. Bone Miner. Res. 23: 1497-1508.
5. Hanagata, N., et al. 2010. Characterization of the osteoblast-specific transmembrane protein IFITM5 and analysis of IFITM5-deficient mice. J. Bone Miner. Metab. 29: 279-290
6. Siegrist, F., et al. 2011. The small interferon-induced transmembrane genes and proteins. J. Interferon Cytokine Res. 31: 183-197.
7. Huang, I.C., et al. 2011. Distinct patterns of IFITM-mediated restriction of filoviruses, SARS coronavirus, and influenza A virus. PLoS Pathog. 7: e1001258.

CHROMOSOMAL LOCATION

Genetic locus: IFITM5 (human) mapping to 11p15.5.

SOURCE

IFITM5 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IFITM5 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-168126 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IFITM5 (K-14) is recommended for detection of IFITM5 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 other IFITM family members.

IFITM5 (K-14) is also recommended for detection of IFITM5 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for IFITM5 siRNA (h): sc-96804, IFITM5 shRNA Plasmid (h): sc-96804-SH and IFITM5 shRNA (h) Lentiviral Particles: sc-96804-V.

Molecular Weight of IFITM5: 14 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.