SANTA CRUZ BIOTECHNOLOGY, INC.

FTα (C-19): sc-487

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian protein farnesyl transferases are heterodimeric proteins containing two nonidentical α and β subunits that attach farnesyl residues to a cysteine at the fourth position from the COOH terminus of several proteins, including nuclear Lamins and p21Ras proteins. The natural substrates contain the Cys-A-A-Xaa recognition sequence, where the A residues are aliphatic and Xaa represents methionine, serine, glutamine or cysteine. The purified farnesyl transferase is an α-β heterodimer. The β subunit binds the peptide substrate while the α subunit is suspected to participate in formation of a stable complex with the substrate farnesyl pyrophosphate. The α subunit is shared with a second prenyl transferase, geranyl-geranyl transferase, that attaches 20 carbon geranylgeranyl to Ras related proteins that terminate in a Cys-A-A-Xaa recognition site in which Xaa is leucine.

REFERENCES

1. Clarke, S., et al. 1988. Post-translational modification of the Ha-ras oncogene protein: evidence for a third class of protein carboxyl methyltransferases. Proc. Natl. Acad. Sci. USA 85: 4643-4647.
2. Reiss, Y., et al. 1990. Inhibition of purified p21ras farnesyl: protein transferase by Cys-A-A-X tetrapeptides. Cell 62: 81-88.

CHROMOSOMAL LOCATION

Genetic locus: FNTA (human) mapping to 8p11.21.

SOURCE

FTα (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of FTα 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-487 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FTα (C-19) is recommended for detection of FTα of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

FTα (C-19) is also recommended for detection of FTα in additional species, including equine, canine and bovine.

Suitable for use as control antibody for FTα siRNA (h): sc-35420, FTα shRNA Plasmid (h): sc-35420-SH and FTα shRNA (h) Lentiviral Particles: sc-35420-V.

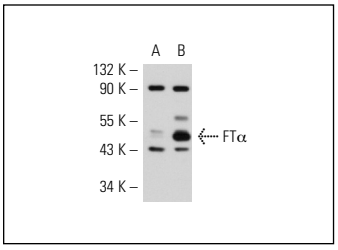
Molecular Weight of FTα: 49 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or FTα (h): 293 Lysate: sc-112923.

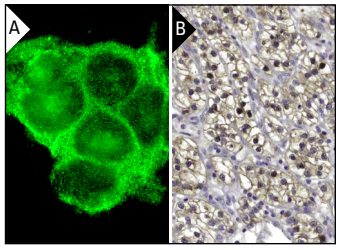
STORAGE

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

DATA



FTα (C-19): sc-487. Western blot analysis of FTα expression in non-transfected: sc-110760 (**A**) and human FTα transfected: sc-112923 (**B**) 293 whole cell lysates.



FTα (C-19): sc-487. Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human renal cancer tissue showing membrane, cytoplasmic, and nuclear staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Vogt, A., et al. 1995. Burkitt lymphoma Daudi cells contain two distinct farnesyl transferases with different divalent cation requirements. Biochemistry 34: 12398-12403.
2. Smith, V., et al. 2002. Establishment and characterization of acquired resistance to the farnesyl protein transferase inhibitor R115777 in a human colon cancer cell line. Clin. Cancer Res. 8: 2002-2009.
3. Brown, R.E., et al. 2003. Mesenchymal chondrosarcoma: molecular characterization by a proteomic approach, with morphogenic and therapeutic implications. Ann. Clin. Lab. Sci. 33: 131-141.
4. Ohkawara, H., et al. 2005. Thrombin-induced rapid geranylgeranylation of Rho A as an essential process for Rho A activation in endothelial cells. J. Biol. Chem. 280: 10182-10188.
5. Yang, G., et al. 2013. RAS promotes tumorigenesis through genomic instability induced by imbalanced expression of Aurora-A and BRCA2 in midbody during cytokinesis. Int. J. Cancer 133: 275-285.
6. Villalobos, X., et al. 2014. Stability and immunogenicity properties of the gene-silencing polypurine reverse Hoogsteen hairpins. Mol. Pharm. 11: 254-264.

RESEARCH USE

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