SANTA CRUZ BIOTECHNOLOGY, INC.

FTα (IB7): sc-23906

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 αβ 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 prenyltransferase, geranylgeranyl 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. Posttranslational 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-AAX tetrapeptides. Cell 62: 81-88.
3. Reiss, Y., et al. 1991. Sequence requirement for peptide recognition by rat brain p21Ras protein farnesyltransferase. Proc. Natl. Acad. Sci. USA 88: 732-736.
4. Chen, W.J., et al. 1991. Cloning and expression of a cDNA encoding the α subunit of rat p21Ras protein farnesyltransferase. Proc. Natl. Acad. Sci. USA 88: 11368-11372.
5. Reiss, Y., et al. 1991. Nonidentical subunits of p21H-Ras farnesyltransferase. J. Biol. Chem. 266: 10672-10677.
6. Moores, S.L., et al. 1991. Sequence dependence of protein isoprenylation. J. Biol. Chem. 266: 14603-14610.
7. Seabra, M.C., et al. 1991. Protein farnesyltransferase and geranylgeranyltransferase share a common α subunit. Cell 65: 429-434.
8. Andres, D.A., et al. 1993. cDNA cloning of the two subunits of human CAAX farnesyltransferase and chromosomal mapping of FNTA and FNTB loci and related sequences. Genomics 18: 105-112.
9. Long, S.B., et al. 2002. Reaction path of protein farnesyltransferase at atomic resolution. Nature 419: 645-650.

CHROMOSOMAL LOCATION

Genetic locus: FNTA (human) mapping to 8p11.21; Fnta (mouse) mapping to 8 A2.

SOURCE

FTα (IB7) is a mouse monoclonal antibody raised against recombinant FTα subunit of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FTα (IB7) is recommended for detection of FTα of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for FTα siRNA (h): sc-35420, FTα siRNA (m): sc-35419, FTα shRNA Plasmid (h): sc-35420-SH, FTα shRNA Plasmid (m): sc-35419-SH, FTα shRNA (h) Lentiviral Particles: sc-35420-V and FTα shRNA (m) Lentiviral Particles: sc-35419-V.

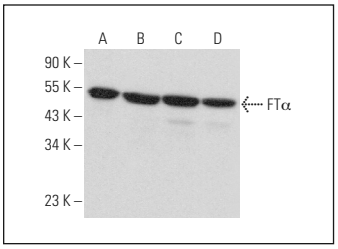
Molecular Weight of FTα: 49 kDa.

Positive Controls: FTα (h): 293T Lysate: sc-158523, NIH/3T3 whole cell lysate: sc-2210 or EOC 20 whole cell lysate: sc-364187.

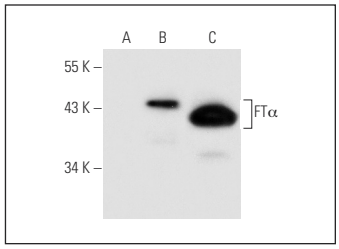
RECOMMENDED SUPPORT REAGENTS

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



FTα (IB7): sc-23906. Western blot analysis of FTα expression in EOC 20 (**A**), BW5147 (**B**), C6 (**C**) and A-10 (**D**) whole cell lysates.



FTα (IB7): sc-23906. Western blot analysis of FTα expression in non-transfected 293T: sc-117752 (**A**), human FTα transfected 293T: sc-158523 (**B**) and NIH/3T3 (**C**) whole cell lysates.

STORAGE

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

PROTOCOLS

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