SANTA CRUZ BIOTECHNOLOGY, INC.

FTα (D-5): sc-374262

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 $p21^{Ras}$ 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 prenyl transferase, 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 $p21^{Ras}$ 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 $p21^{Ras}$ 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 a subunit of rat $p21^{Ras}$ protein farnesyltransferase. Proc. Natl. Acad. Sci. USA 88: 11368-11372.
5. Reiss, Y., et al. 1991. Nonidentical subunits of $p21^{H\text{-}Ras}$ 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.

CHROMOSOMAL LOCATION

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

SOURCE

FTα (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 349-377 at the C-terminus of FTα of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374262 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FTα (D-5) is recommended for detection of FTα of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

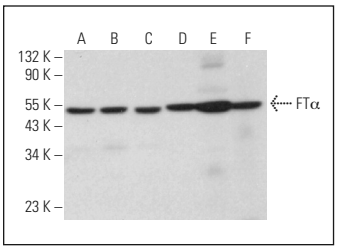
Molecular Weight of FTα: 49 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

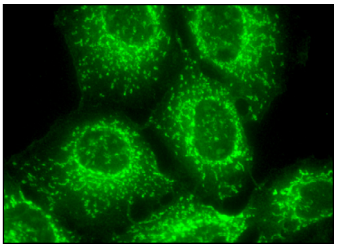
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FTα (D-5): sc-374262. Western blot analysis of FTα expression in Jurkat (**A**), K-562 (**B**), Hep G2 (**C**) and NIH/3T3 (**D**) whole cell lysates and mouse brain (**E**) and human liver (**F**) tissue extracts.



FTα (D-5): sc-374262. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.