

FT α (B-1): sc-390757

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 $\alpha\beta$ 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

FT α (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 353-377 of FT α of rat origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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-390757 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FT α (B-1) is recommended for detection of FT α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 FT α siRNA (h): sc-35420, FT α siRNA (m): sc-35419, FT α shRNA Plasmid (h): sc-35420-SH, FT α shRNA Plasmid (m): sc-35419-SH, FT α shRNA (h) Lentiviral Particles: sc-35420-V and FT α shRNA (m) Lentiviral Particles: sc-35419-V.

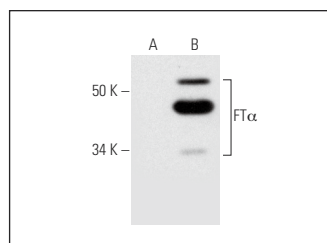
Molecular Weight of FT α : 49 kDa.

Positive Controls: FT α (m): 293T Lysate: sc-120327 or NIH/3T3 whole cell lysate: sc-2210.

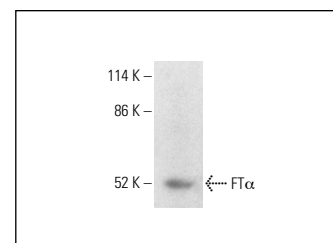
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



FT α (B-1): sc-390757. Western blot analysis of FT α expression in non-transfected: sc-117752 (A) and mouse FT α transfected: sc-120327 (B) 293T whole cell lysates.



FT α (B-1): sc-390757. Western blot analysis of FT α expression in NIH/3T3 whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

STORAGE

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