SANTA CRUZ BIOTECHNOLOGY, INC.

Fe65 (F-6): sc-398389

The Power to Question

BACKGROUND

γ-secretase cleaves the cell surface protein amyloid protein precursor (APP) at the transmembrane region into an extracelluar peptide (β-Amyloid) and an intracelluar tail fragment. The cytoplasmic tail of APP forms a multimeric complex with Fe65 (also known as APBB1 for APP binding protein family B member 1). Specifically, Fe65 binds the YENPTY sequence in the cytoplasmic tail of APP. Fe65 is a nuclear adaptor protein widely expressed in the brain, including hippocampus and isocortex. In the cell, Fe65 and APP colocalize to the ER and Golgi. The interaction between APP and Fe65 increases the translocation of APP to the cell surface and the subsequent secretion of β-Amyloid. Fe65 and APP localize with Mena, a cell-adhesion protein, and Fe65 regulates APP-dependent changes in cell motility. The gene encoding human Fe65 maps to chromosome 11p15.4.

REFERENCES

1. Duilio, A., et al. 1991. A rat brain mRNA encoding a transcriptional activator homologous to the DNA binding domain of retroviral integrases. Nucleic Acids Res. 19: 5269-5274.
2. Bressler, S.L., et al. 1996. cDNA cloning and chromosome mapping of the human Fe65 gene: interaction of the conserved cytoplasmic domains of the human β-Amyloid precursor protein and its homologues with the mouse Fe65 protein. Hum. Mol. Genet. 5: 1589-1598.
3. Borg, J.P., et al. 1996. The phosphotyrosine interaction domains of X11 and Fe65 bind to distinct sites on the YENPTY motif of amyloid precursor protein. Mol. Cell. Biol. 16: 6229-6241.
4. Guenette, S.Y., et al. 1999. hFe65L influences amyloid precursor protein maturation and secretion. J. Neurochem. 73: 985-993.

CHROMOSOMAL LOCATION

Genetic locus: APBB1 (human) mapping to 11p15.4; Apbb1 (mouse) mapping to 7 E3.

SOURCE

Fe65 (F-6) is a mouse monoclonal antibody raised against amino acids 1-150 mapping at the N-terminus of Fe65 of human origin.

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.

Fe65 (F-6) is available conjugated to agarose (sc-398389 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398389 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398389 PE), fluorescein (sc-398389 FITC), Alexa Fluor® 488 (sc-398389 AF488), Alexa Fluor® 546 (sc-398389 AF546), Alexa Fluor® 594 (sc-398389 AF594) or Alexa Fluor® 647 (sc-398389 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398389 AF680) or Alexa Fluor® 790 (sc-398389 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Fe65 (F-6) is recommended for detection of Fe65 isoforms 1 and 2 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 Fe65 siRNA (h): sc-41954, Fe65 siRNA (m): sc-41955, Fe65 shRNA Plasmid (h): sc-41954-SH, Fe65 shRNA Plasmid (m): sc-41955-SH, Fe65 shRNA (h) Lentiviral Particles: sc-41954-V and Fe65 shRNA (m) Lentiviral Particles: sc-41955-V.

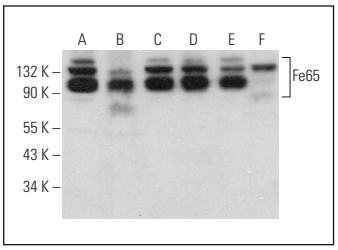
Molecular Weight of Fe65: 85-90 kDa.

Positive Controls: Fe65 (h) 293T Lysate: sc-175237, C6 whole cell lysate: sc-364373 or SH-SY5Y cell lysate: sc-3812.

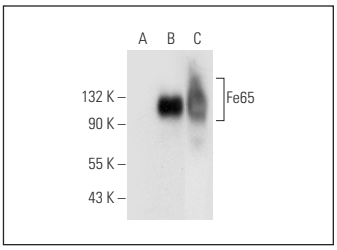
RECOMMENDED SUPPORT REAGENTS

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



Fe65 (F-6): sc-398389. Western blot analysis of Fe65 expression in IMR-32 (**A**), RD (**B**), HUV-EC-C (**C**), Caco-2 (**D**), SJRH30 (**E**) and C6 (**F**) whole cell lysates.



Fe65 (F-6): sc-398389. Western blot analysis of Fe65 expression in non-transfected 293T: sc-117752 (**A**), human Fe65 transfected 293T: sc-175237 (**B**) and SH-SY5Y (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Authiat, M.M., et al. 2022. Preferential involvement of BRCA1/BARD1, not Tip60/Fe65, in DNA double-strand break repair in presenilin-1 P117L Alzheimer models. Neural Plast. 2022: 3172861.

STORAGE

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