

# Fe65 (D-11): sc-374641

## BACKGROUND

$\gamma$ -secretase cleaves the cell surface protein amyloid protein precursor (APP) at the transmembrane region into an extracellular peptide ( $\beta$ -Amyloid) and an intracellular 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  $\beta$ -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

- 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.
- 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  $\beta$ -Amyloid precursor protein and its homologues with the mouse Fe65 protein. *Hum. Mol. Genet.* 5: 1589-1598.
- 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.
- Guenette, S.Y., et al. 1999. hFE65L influences Amyloid precursor protein maturation and secretion. *J. Neurochem.* 73: 985-993.
- Sabo, S.L., et al. 1999. Regulation of  $\beta$ -Amyloid secretion by Fe65, an amyloid protein precursor-binding protein. *J. Biol. Chem.* 274: 7952-7957.

## CHROMOSOMAL LOCATION

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

## SOURCE

Fe65 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 63-101 near the N-terminus of Fe65 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> 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-374641 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

Fe65 (D-11) is recommended for detection of Fe65 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Fe65 (D-11) is also recommended for detection of Fe65 in additional species, including equine, canine, bovine and porcine.

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.

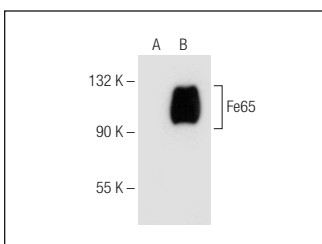
Molecular Weight of Fe65: 85-90 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or Fe65 (h): 293T Lysate: sc-175237.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (D-11): sc-374641. Western blot analysis of Fe65 expression in non-transfected: sc-117752 (A) and human Fe65 transfected: sc-175237 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Godoy, P.A., et al. 2021. Increased P2 $\times$ 2 receptors induced by Amyloid- $\beta$  peptide participates in the neurotoxicity in Alzheimer's disease. *Biomed. Pharmacother.* 142: 111968.

## RESEARCH USE

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