

X11 β (B-5): sc-377060

BACKGROUND

The β -Amyloid precursor protein (β -APP) is a major constituent of the amyloid deposits in patients with Alzheimer's disease. The β -Amyloid precursor is known to interact with several proteins, including X11 and the G heterotrimeric protein APP-BP1. The neuronal, transmembrane protein X11 is known to bind to the β -Amyloid precursor protein via a phosphotyrosine binding (PTB) domain, reducing the secretion of cellular β -APP and slowing β -APP processing pathways. X11 binds specifically to the YENPTY motif, which is involved in the internalization of β -APP. Multiple splice variants of X11 have been identified, including X11 α (also designated Mint 1), X11 β (Mint 2) and X11 γ (Mint 3).

REFERENCES

1. 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.
2. Okamoto, M., et al. 1997. Mints, Munc18-interacting proteins in synaptic vesicle exocytosis. *J. Biol. Chem.* 272: 31459-31464.
3. Zhang, Z., et al. 1997. Sequence-specific recognition of the internalization motif of the Alzheimer's amyloid precursor protein by the X11 PTB domain. *EMBO J.* 16: 6141-6150.
4. Russo, T., et al. 1998. Fe65 and the protein network centered around the cytosolic domain of the Alzheimer's β -Amyloid precursor protein. *FEBS Lett.* 434: 1-7.
5. Borg, J.P., et al. 1998. The X11 α protein slows cellular amyloid precursor protein processing and reduces A β 40 and A β 42 secretion. *J. Biol. Chem.* 273: 14761-14766.
6. Sastre, M., et al. 1998. X11 interaction with β -Amyloid precursor protein modulates its cellular stabilization and reduces amyloid β -protein secretion. *J. Biol. Chem.* 273: 22351-22357.

CHROMOSOMAL LOCATION

Genetic locus: APBA2 (human) mapping to 15q13.1; Apba2 (mouse) mapping to 7 C.

SOURCE

X11 β (B-5) is a mouse monoclonal antibody raised against amino acids 1-220 mapping at the N-terminus of X11 β of mouse origin.

PRODUCT

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

STORAGE

Store at 4 $^{\circ}$ 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.

APPLICATIONS

X11 β (B-5) is recommended for detection of X11 β 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), immunohistochemistry (including paraffin-embedded sections) (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 X11 β siRNA (h): sc-36849, X11 β siRNA (m): sc-36850, X11 β shRNA Plasmid (h): sc-36849-SH, X11 β shRNA Plasmid (m): sc-36850-SH, X11 β shRNA (h) Lentiviral Particles: sc-36849-V and X11 β shRNA (m) Lentiviral Particles: sc-36850-V.

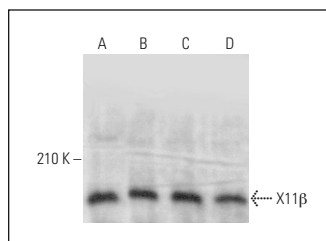
Molecular Weight of X11 β : 135 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, mouse brain extract: sc-2253 or rat cerebellum extract: sc-2398.

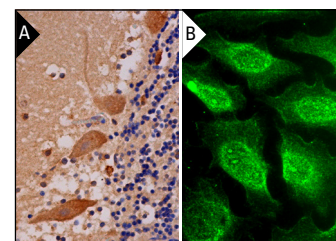
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



X11 β (B-5): sc-377060. Western blot analysis of X11 β expression in IMR-32 whole cell lysate (A) and mouse brain (B), rat hippocampus (C) and rat cerebellum (D) tissue extracts.



X11 β (B-5): sc-377060. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells, cells in granular layer and cells in molecular layer (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (B).

SELECT PRODUCT CITATIONS

1. Chung, Y., et al. 2020. Mint3 is dispensable for pancreatic and kidney functions in mice. *Biochem. Biophys. Rep.* 24: 100872.

PROTOCOLS

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