

# X11 $\beta$ (B-5): sc-377060

## BACKGROUND

The  $\beta$ -Amyloid precursor protein ( $\beta$ -APP) is a major constituent of the amyloid deposits in patients with Alzheimer's disease. The  $\beta$ -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  $\beta$ -Amyloid precursor protein via a phosphotyrosine binding (PTB) domain, reducing the secretion of cellular  $\beta$ -APP and slowing  $\beta$ -APP processing pathways. X11 binds specifically to the YENPTY motif, which is involved in the internalization of  $\beta$ -APP. Multiple splice variants of X11 have been identified, including X11 $\alpha$  (also designated Mint 1), X11 $\beta$  (Mint 2) and X11 $\gamma$  (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  $\beta$ -Amyloid precursor protein. *FEBS Lett.* 434: 1-7.
5. Borg, J.P., et al. 1998. The X11 $\alpha$  protein slows cellular amyloid precursor protein processing and reduces A $\beta$ 40 and A $\beta$ 42 secretion. *J. Biol. Chem.* 273: 14761-14766.
6. Sastre, M., et al. 1998. X11 interaction with  $\beta$ -Amyloid precursor protein modulates its cellular stabilization and reduces amyloid  $\beta$ -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 $\beta$  (B-5) is a mouse monoclonal antibody raised against amino acids 1-220 mapping at the N-terminus of X11 $\beta$  of mouse origin.

## PRODUCT

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

## 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.

## APPLICATIONS

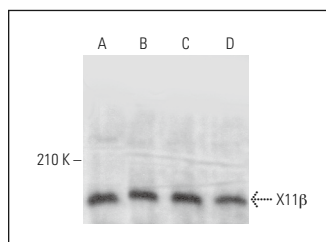
X11 $\beta$  (B-5) is recommended for detection of X11 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 $\beta$  siRNA (h): sc-36849, X11 $\beta$  siRNA (m): sc-36850, X11 $\beta$  shRNA Plasmid (h): sc-36849-SH, X11 $\beta$  shRNA Plasmid (m): sc-36850-SH, X11 $\beta$  shRNA (h) Lentiviral Particles: sc-36849-V and X11 $\beta$  shRNA (m) Lentiviral Particles: sc-36850-V.

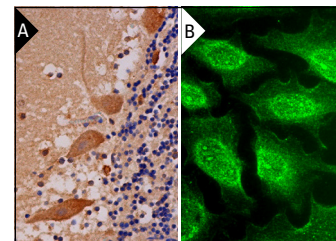
Molecular Weight of X11 $\beta$ : 135 kDa.

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

## DATA



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



X11 $\beta$  (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](http://www.scbt.com) for detailed protocols and support products.