

# X11 $\alpha$ (B-12): sc-137024

## 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

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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.
7. Biederer, T., et al. 2000. Mints as adaptors. Direct binding to neuroligins and recruitment of Munc18. *J. Biol. Chem.* 275: 39803-39806.
8. Lau, K.F., et al. 2000. X11 $\alpha$  and X11 $\beta$  interact with Presenilin 1 via their PDZ domains. *Mol. Cell. Neurosci.* 16: 557-565.
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## CHROMOSOMAL LOCATION

Genetic locus: APBA1 (human) mapping to 9q21.11; Apba1 (mouse) mapping to 19 B.

## SOURCE

X11 $\alpha$  (B-12) is a mouse monoclonal antibody raised against amino acids 1-265 mapping near the N-terminus of X11 $\alpha$  of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

X11 $\alpha$  (B-12) is recommended for detection of X11 $\alpha$  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).

Suitable for use as control antibody for X11 $\alpha$  siRNA (h): sc-36851, X11 $\alpha$  siRNA (m): sc-36852, X11 $\alpha$  shRNA Plasmid (h): sc-36851-SH, X11 $\alpha$  shRNA Plasmid (m): sc-36852-SH, X11 $\alpha$  shRNA (h) Lentiviral Particles: sc-36851-V and X11 $\alpha$  shRNA (m) Lentiviral Particles: sc-36852-V.

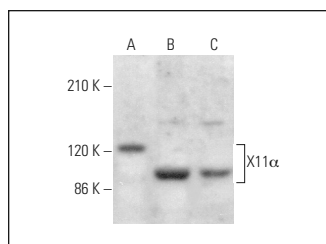
Molecular Weight of X11 $\alpha$ : 140 kDa.

Positive Controls: mouse brain extract: sc-2253, A-673 cell lysate: sc-2414 or rat cerebellum extract: sc-2398.

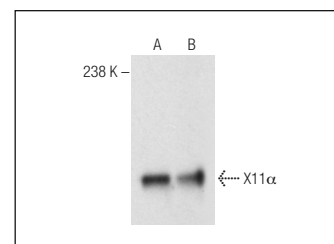
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



X11 $\alpha$  (B-12): sc-137024. Western blot analysis of X11 $\alpha$  expression in A-673 (A), Neuro-2A (B) and EOC 20 (C) whole cell lysates.



X11 $\alpha$  (B-12): sc-137024. Western blot analysis of X11 $\alpha$  expression in rat cerebellum (A) and mouse brain (B) tissue extracts.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.