SANTA CRUZ BIOTECHNOLOGY, INC.

X11γ (32): sc-136121

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 heterotrimetric 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 varitents of X11 have been identified, including X11α (also designated Mint 1), X11β (Mint 2) and X11γ (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 X11α protein slows cellular Amyloid precursor protein processing and reduces Aβ40 and Aβ42 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.
7. Biederer, T., et al. 2000. Mints as adaptors. Direct binding to neurexins and recruitment of munc18. J. Biol. Chem. 275: 39803-39806.
8. Lau, K.F., et al. 2000. X11α and X11β interact with presenilin-1 via their PDZ domains. Mol. Cell. Neurosci 16: 557-565.
9. Ho, A., et al. 2003. A role for Mints in transmitter release: Mint 1 knockout mice exhibit impaired GABAergic synaptic transmission. Proc. Natl. Acad. Sci. USA 100: 1409-1414.

CHROMOSOMAL LOCATION

Genetic locus: APBA3 (human) mapping to 19p13.3; Apba3 (mouse) mapping to 10 C1.

SOURCE

X11γ (32) is a mouse monoclonal antibody raised against amino acids 63-185 of X11γ of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

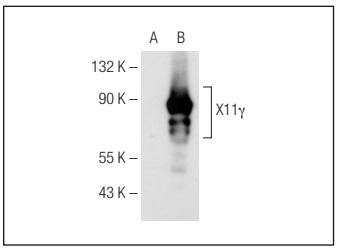
X11γ (32) is recommended for detection of X11γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for X11γ siRNA (h): sc-36847, X11γ siRNA (m): sc-36848, X11γ shRNA Plasmid (h): sc-36847-SH, X11γ shRNA Plasmid (m): sc-36848-SH, X11γ shRNA (h) Lentiviral Particles: sc-36847-V and X11γ shRNA (m) Lentiviral Particles: sc-36848-V.

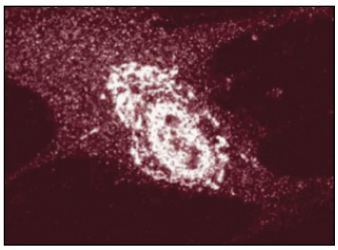
Molecular Weight of X11γ: 89 kDa.

Positive Controls: mouse brain extract: sc-2253 or X11γ (m): 293T Lysate: sc-124660.

DATA



X11γ (32): sc-136121. Western blot analysis of X11γ expression in non-transfected: sc-117752 (**A**), and mouse X11γ transfected: sc-124660 (**B**) 293T whole cell lysates.



X11γ (32): sc-136121. Immunofluorescence staining of WI-38 cells showing cytoplasmic localization.

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 for detailed protocols and support products.