SANTA CRUZ BIOTECHNOLOGY, INC.

γ1-Adaptin (B-2): sc-25291

BACKGROUND

Clathrin-coated pits and vesicles are assembled for receptor-mediated endocytosis through interaction with clathrin associated protein complexes. Vesicle transport is mediated from the *trans*-Golgi network by the adapter complex AP-1 and from the plasma membrane by the AP-2 complex. The AP-1 and AP-2 adapter protein complexes consist of clathrin binding adaptin proteins (γ and β1 for AP-1, α and β2 for AP-2) and two smaller subunits known as AP50 and AP17. The α and β adaptin chains have a similar two-domain organization with C-terminal domains that vary in both sequence and length. α-Adaptin splice variants A and C display variable relative expression levels and differential distribution in different tissues. AP180 (also designated AP-3 or F1-20) is a synapse-specific clathrin assembly protein. The protein CALM (clathrin assembly protein lymphoid myeloid leukemia) is highly homologous to AP180 and may also be involved in clathrin assembly.

REFERENCES

1. Kirchhausen, T., et al. 1989. Structural and functional division into two domains of the large (100 to 115 kDa) chains of the clathrin-associated protein complex AP-2. Proc. Natl. Acad. Sci. USA 86: 2612-2616.
2. Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100 kDa coated vesicle proteins (α-adaptins). J. Cell Biol. 108: 833-842.
3. Robinson, M.S. 1990. Cloning and expression of γ-adaptin, a component of clathrin-coated vesicles associated with the Golgi apparatus. J. Cell Biol. 111: 2319-2326.
4. Ponnambalam, S., et al. 1990. Conservation and diversity in families of coated vesicle adaptins. J. Biol. Chem. 265: 4814-4820.
5. Morris, S.A., et al. 1993. Clathrin assembly protein AP180: primary structure, domain organization and identification of a clathrin binding site. EMBO J. 12: 667-675.
6. Ball, C.L., et al. 1995. Expression and localization of α-adaptin isoforms. J. Cell Sci. 108: 2865-2875.
7. Mellman, I. 1996. Endocytosis and molecular sorting. Annu. Rev. Cell Dev. Biol. 12: 575-625.
8. Dreyling, M.H., et al. 1996. The t(10;11) (p13;q14) in the U937 cell line results in the fusion of the AF10 gene and CALM, encoding a new member of the AP-3 clathrin assembly protein family. Proc. Natl. Acad. Sci. USA 93: 4804-4809.

CHROMOSOMAL LOCATION

Genetic locus: Ap1g1 (mouse) mapping to 8 D3.

SOURCE

γ1-Adaptin (B-2) is a mouse monoclonal antibody raised against amino acids 653-821 of γ1-Adaptin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

γ1-Adaptin (B-2) is recommended for detection of γ1-Adaptin of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation [1-2 µg per 100-500 µg 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 γ1-Adaptin siRNA (m): sc-29579, γ1-Adaptin shRNA Plasmid (m): sc-29579-SH and γ1-Adaptin shRNA (m) Lentiviral Particles: sc-29579-V.

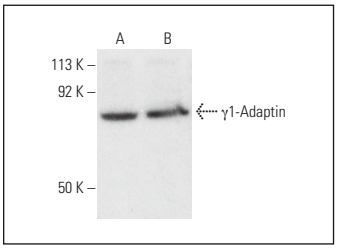
Molecular Weight of γ1-Adaptin: 91 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299 or PC-12 cell lysate: sc-2250.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



γ1-Adaptin (B-2): sc-25291. Western blot analysis of γ1-Adaptin expression in BC_3H1 (**A**) and PC-12 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Suzuki, T., et al. 2005. Zinc transporters, ZnT5 and ZnT7, are required for the activation of alkaline phosphatases, zinc-requiring enzymes that are glycosylphosphatidylinositol-anchored to the cytoplasmic membrane. J. Biol. Chem. 280: 637-643.

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.