

# $\beta$ -Adaptin (100/1): sc-58226



The Power to Question

## 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 ( $\gamma$  and  $\beta$ 1 for AP-1,  $\alpha$  and  $\beta$ 2 for AP-2) and two smaller subunits known as AP50 and AP17. The  $\alpha$ - and  $\beta$ -Adaptin chains have a similar two-domain organization with C-terminal domains that vary in both sequence and length.  $\alpha$ -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

- 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.
- Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100 kDa coated vesicle proteins ( $\alpha$ -Adaptins). *J. Cell Biol.* 108: 833-842.
- Robinson, M.S. 1990. Cloning and expression of  $\gamma$ -Adaptin, a component of Clathrin-coated vesicles associated with the Golgi apparatus. *J. Cell Biol.* 111: 2319-2326.
- Ponnambalam, S., et al. 1990. Conservation and diversity in families of coated vesicle adaptins. *J. Biol. Chem.* 265: 4814-4820.
- 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.
- Ball, C.L., et al. 1995. Expression and localization of  $\alpha$ -Adaptin isoforms. *J. Cell Sci.* 108: 2865-2875.
- Mellman, I. 1996. Endocytosis and molecular sorting. *Annu. Rev. Cell Dev. Biol.* 12: 575-625.

## CHROMOSOMAL LOCATION

Genetic locus: AP2B1 (human) mapping to 17q12, AP1B1 (human) mapping to 22q12.2; Ap2b1 (mouse) mapping to 11 C, Ap1b1 (mouse) mapping to 11 A1.

## SOURCE

$\beta$ -Adaptin (100/1) is a mouse monoclonal antibody raised against  $\beta$ -Adaptin of bovine origin.

## 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.

## RESEARCH USE

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

## APPLICATIONS

$\beta$ -Adaptin (100/1) is recommended for detection of  $\beta$ -Adaptin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

$\beta$ -Adaptin (100/1) is also recommended for detection of  $\beta$ -Adaptin in additional species, including bovine.

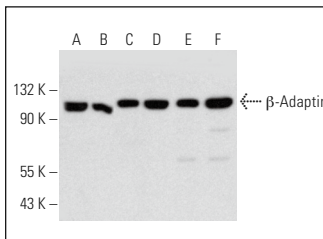
Molecular Weight of  $\beta$ -Adaptin: 106 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, IMR-32 cell lysate: sc-2409 or K-562 whole cell lysate: sc-2203.

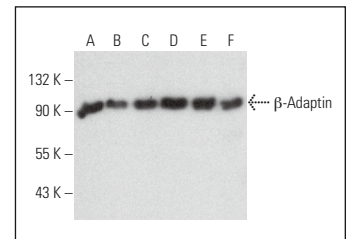
## RECOMMENDED SUPPORT REAGENTS

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™ 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



$\beta$ -Adaptin (100/1): sc-58226. Western blot analysis of  $\beta$ -Adaptin expression in K-562 (A), IMR-32 (B), Jurkat (C), U-251-MG (D), C6 (E) and RIN-m5F (F) whole cell lysates.



$\beta$ -Adaptin (100/1): sc-58226. Western blot analysis of  $\beta$ -Adaptin expression in PC-12 (A), RAW 264.7 (B), NIH/3T3 (C), Neuro-2A (D), EOC 20 (E) and C3H/10T1/2 (F) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Zander, K.A., et al. 2009. Protein microarray analysis of nasal polyps from aspirin-sensitive and aspirin-tolerant patients with chronic rhinosinusitis. *Am. J. Rhinol. Allergy* 23: 268-272.
- Peyta, L., et al. 2016. Reduced cardiolipin content decreases respiratory chain capacities and increases ATP synthesis yield in the human HepaRG cells. *Biochim. Biophys. Acta* 1857: 443-453.

## STORAGE

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