

# Adducin $\alpha$ (4D1): sc-33633

## BACKGROUND

Adducins are a family of cytoskeleton proteins encoded by three genes ( $\alpha$ ,  $\beta$ , and  $\gamma$ ). Adducin is a protein associated with the inner leaflet of the plasma membrane and is one of the proteins localized at the spectrin-Actin junction of the membrane skeleton. The cortical Actin cytoskeletal network is lost during apoptosis and Adducins are central in the cortical Actin network organization. Adducin  $\alpha$  is a cytoskeletal protein involved with sodium-pump activity in the renal tubule and is associated with hypertension. The expression of Adducin  $\alpha$  and Adducin  $\gamma$  is ubiquitous in contrast to the restricted expression of Adducin  $\beta$ . Adducin  $\beta$  is expressed at high levels in brain and hematopoietic tissues, such as bone marrow in humans and spleen in mice.

## REFERENCES

1. Burns, M.E., et al. 1998. Rabphilin-3A: a multifunctional regulator of synaptic vesicle traffic. *J. Gen. Physiol.* 111: 243-255.
2. Gilligan, D.M., et al. 1999. Targeted disruption of the Adducin  $\beta$  gene (Add2) causes red blood cell spherocytosis in mice. *Proc. Natl. Acad. Sci. USA* 96: 10717-10722.
3. Busjahn, A., et al. 1999. Linkage but lack of association for blood pressure and the Adducin  $\alpha$  locus in normotensive twins. *J. Hypertens.* 17: 1437-1441.
4. Muro, A.F., et al. 2000. Mild spherocytic hereditary elliptocytosis and altered levels of  $\alpha$ - and  $\gamma$ -Adducins in  $\beta$ -Adducin-deficient mice. *Blood* 95: 3978-3985.

## CHROMOSOMAL LOCATION

Genetic locus: ADD1 (human) mapping to 4p16.3; Add1 (mouse) mapping to 5 B2.

## SOURCE

Adducin  $\alpha$  (4D1) is a mouse monoclonal antibody raised against amino acids 181-245 of recombinant  $\alpha$  Adducin of rat 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.

Adducin  $\alpha$  (4D1) is available conjugated to agarose (sc-33633 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33633 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33633 PE), fluorescein (sc-33633 FITC), Alexa Fluor<sup>®</sup> 488 (sc-33633 AF488), Alexa Fluor<sup>®</sup> 546 (sc-33633 AF546), Alexa Fluor<sup>®</sup> 594 (sc-33633 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-33633 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-33633 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-33633 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

Adducin  $\alpha$  (4D1) is recommended for detection of Adducin  $\alpha$  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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Adducin  $\alpha$  siRNA (h): sc-43253, Adducin  $\alpha$  siRNA (m): sc-43254, Adducin  $\alpha$  shRNA Plasmid (h): sc-43253-SH, Adducin  $\alpha$  shRNA Plasmid (m): sc-43254-SH, Adducin  $\alpha$  shRNA (h) Lentiviral Particles: sc-43253-V and Adducin  $\alpha$  shRNA (m) Lentiviral Particles: sc-43254-V.

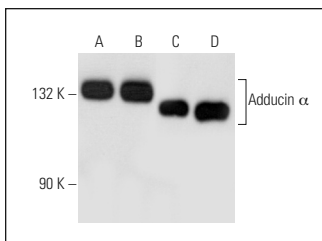
Molecular Weight of Adducin  $\alpha$ : 120 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, H4 cell lysate: sc-2408 or T98G cell lysate: sc-2294.

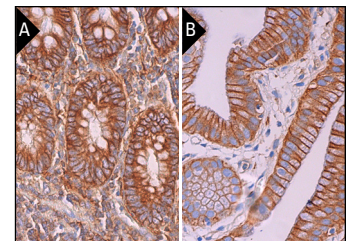
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Adducin  $\alpha$  (4D1): sc-33633. Western blot analysis of Adducin  $\alpha$  expression in T98G (A), H4 (B), KNRK (C) and C6 (D) whole cell lysates.



Adducin  $\alpha$  (4D1): sc-33633. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix (A) and human gall bladder (B) tissue showing membrane and cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Hiermaier, M., et al. 2020. The Actin binding protein  $\alpha$ -Adducin modulates desmosomal turnover and plasticity. *J. Invest. Dermatol.* E-published.

## RESEARCH USE

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

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