

Adducin α (C-4): sc-133078

BACKGROUND

Adducins are a family of cytoskeleton proteins encoded by three genes (α , β , and γ). 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 α is a cytoskeletal protein involved with sodium-pump activity in the renal tubule and is associated with hypertension. The expression of Adducin α and Adducin γ is ubiquitous in contrast to the restricted expression of Adducin β . Adducin β 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 β 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 α locus in normotensive twins. *J. Hypertens.* 17: 1437-1441.
4. Muro, A.F., et al. 2000. Mild spherocytic hereditary elliptocytosis and altered levels of α - and γ -Adducins in β -Adducin-deficient mice. *Blood* 95: 3978-3985.
5. Psaty, B.M., et al. 2000. Association of the α Adducin polymorphism with blood pressure and risk of myocardial infarction. *J. Hum. Hypertens.* 14: 95-97.
6. van De Water, B., et al. 2000. Cleavage of the Actin-capping protein α -Adducin at Asp-Asp-Ser-Asp633-Ala by caspase-3 is preceded by its phosphorylation on Serine 726 in cisplatin-induced apoptosis of renal epithelial cells. *J. Biol. Chem.* 275: 25805-25813.

CHROMOSOMAL LOCATION

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

SOURCE

Adducin α (C-4) is a mouse monoclonal antibody raised against amino acids 581-680 of Adducin α of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

Adducin α (C-4) is recommended for detection of Adducin α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 Adducin α siRNA (h): sc-43253, Adducin α siRNA (m): sc-43254, Adducin α shRNA Plasmid (h): sc-43253-SH, Adducin α shRNA Plasmid (m): sc-43254-SH, Adducin α shRNA (h) Lentiviral Particles: sc-43253-V and Adducin α shRNA (m) Lentiviral Particles: sc-43254-V.

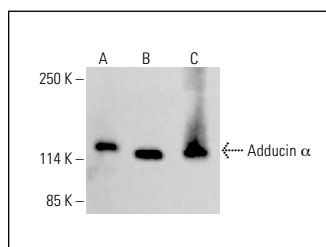
Molecular Weight of Adducin α : 120 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2237.

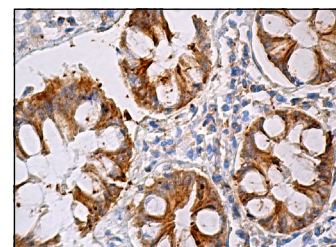
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Adducin α (C-4): sc-133078. Western blot analysis of Adducin α expression in HeLa (A), K-562 (B) and HCT-116 (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Adducin α (C-4): sc-133078. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Prudent, M., et al. 2018. Proteomics of stored red blood cell membrane and storage-induced microvesicles reveals the association of Flotillin-2 with band 3 complexes. *Front. Physiol.* 9: 421.

RESEARCH USE

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