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collectrin (D-11): sc-518233

BACKGROUND

Collectrin, also known as TMEM27 (transmembrane protein 27) or NX17, is a 222 amino acid single-pass type I membrane protein belonging to the TMEM27 family. Collectrin interacts with Snapin to regulate SNARE complex function, which in turn controls Insulin exocytosis. Collectrin has been found to stimulate β cell replication and plays a role in renal amino acid uptake. Localizing to luminal surface and cytoplasm of renal collecting ducts of the cortex and medulla, collectrin is also found in β cells of pancreatic islets, where its extracellular domain becomes cleaved following translation and is released from the cell membrane. Collectrin exists as a homodimer, undergoes post-translational glycosylation and interacts with XTRP2. The gene encoding collectrin maps to human chromosome Xp22.2.

REFERENCES

1. Zhang, H., et al. 1999. Screening for genes up-regulated in 5/6 nephrectomized mouse kidney. *Kidney Int.* 56: 549-558.
2. Zhang, H., et al. 2001. Collectrin, a collecting duct-specific transmembrane glycoprotein, is a novel homolog of ACE2 and is developmentally regulated in embryonic kidneys. *J. Biol. Chem.* 276: 17132-17139.
3. Fukui, K., et al. 2005. The HNF-1 target collectrin controls Insulin exocytosis by SNARE complex formation. *Cell Metab.* 2: 373-384.
4. Danilczyk, U., et al. 2006. Essential role for collectrin in renal amino acid transport. *Nature* 444: 1088-1091.
5. Mount, D.B. 2007. Collectrin and the kidney. *Curr. Opin. Nephrol. Hypertens.* 16: 427-429.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 300631. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CLTRN (human) mapping to Xp22.2.

SOURCE

collectrin (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 162-181 of collectrin of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

collectrin (D-11) is available conjugated to agarose (sc-518233 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518233 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518233 PE), fluorescein (sc-518233 FITC), Alexa Fluor® 488 (sc-518233 AF488), Alexa Fluor® 546 (sc-518233 AF546), Alexa Fluor® 594 (sc-518233 AF594) or Alexa Fluor® 647 (sc-518233 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518233 AF680) or Alexa Fluor® 790 (sc-518233 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

collectrin (D-11) is recommended for detection of collectrin of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for collectrin siRNA (h): sc-90959, collectrin shRNA Plasmid (h): sc-90959-SH and collectrin shRNA (h) Lentiviral Particles: sc-90959-V.

Molecular Weight of collectrin glycoprotein: 46 kDa.

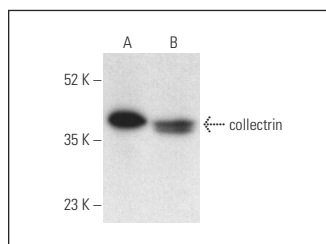
Molecular Weight of cleaved extracellular collectrin: 25 kDa.

Positive Controls: A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

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.

DATA



collectrin (D-11): sc-518233. Western blot analysis of collectrin expression in A549 (A) and Hep G2 (B) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.