

# EPI64 (34): sc-136520

## BACKGROUND

The Na<sup>+</sup>/H<sup>+</sup> exchange protein (NHE) functions in transepithelial Na<sup>+</sup> absorption and is primarily expressed in the intestinal and renal brush border membrane. NHE regulatory factor 1 (NHERF-1) interacts with NHE through two PDZ (for PSD-95, Discs-large, and ZO-1 homology) domains, which are protein-protein interaction modules that associate with specific C-terminal motifs on target proteins. Also known as EBP50, NHERF-1 facilitates cAMP inhibition of NHE to decrease Na<sup>+</sup> adsorption. NHERF-2, also known as E3KARP, is ubiquitously expressed as a protein which also functions in NHE2 regulation. EPI64 (EBP-PDZ interactor) contains a C-terminal -DTYL sequence that binds to the first PDZ domain of NHERF-1 and NHERF-2. EPI64 is ubiquitously expressed and localizes with NHERF-1 *in vitro*.

## REFERENCES

- Sheng, M. 1996. PDZs and receptor/channel clustering: rounding up the latest suspects. *Neuron* 17: 575-578.
- Yun, C.H., et al. 1997. cAMP-mediated inhibition of the epithelial brush border Na<sup>+</sup>/H<sup>+</sup> exchanger, NHE3, requires an associated regulatory protein. *Proc. Natl. Acad. Sci. USA* 94: 3010-3015.
- Poulat, F., et al. 1997. The human testis determining factor SRY bind a nuclear factor containing PDZ protein interaction domains. *J. Biol. Chem.* 272: 7167-7172.
- Reczek, D. and Bretscher, A. 2001. Identification of EPI64, a TBC/rabGAP domain-containing microvillar protein that binds to the first PDZ domain of EBP50 and E3KARP. *J. Cell Biol.* 153: 191-205.
- Itoh, T. and Fukuda, M. 2006. Identification of EPI64 as a GTPase-activating protein specific for Rab27A. *J. Biol. Chem.* 281: 31823-31831.
- Hanono, A., et al. 2006. EPI64 regulates microvillar subdomains and structure. *J. Cell Biol.* 175: 803-813.

## CHROMOSOMAL LOCATION

Genetic locus: TBC1D10A (human) mapping to 22q12.2; Tbc1d10a (mouse) mapping to 11 A1.

## SOURCE

EPI64 (34) is a mouse monoclonal antibody raised against amino acids 391-508 of EPI64 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EPI64 (34) is available conjugated to agarose (sc-136520 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136520 PE), fluorescein (sc-136520 FITC), Alexa Fluor® 488 (sc-136520 AF488), Alexa Fluor® 594 (sc-136520 AF594) or Alexa Fluor® 647 (sc-136520 AF647), 200 µg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136520 AF680) or Alexa Fluor® 790 (sc-136520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

EPI64 (34) is recommended for detection of EPI64 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for EPI64 siRNA (h): sc-42520, EPI64 siRNA (m): sc-42521, EPI64 shRNA Plasmid (h): sc-42520-SH, EPI64 shRNA Plasmid (m): sc-42521-SH, EPI64 shRNA (h) Lentiviral Particles: sc-42520-V and EPI64 shRNA (m) Lentiviral Particles: sc-42521-V.

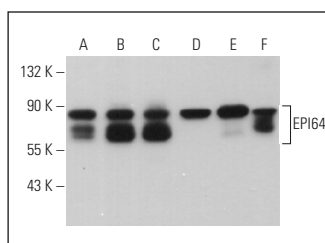
Molecular Weight of EPI64: 64 kDa.

Positive Controls: JAR cell lysate: sc-2276, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

## 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).

## DATA



EPI64 (34): sc-136520. Western blot analysis of EPI64 expression in JAR (A), CCRF-CEM (B), MOLT-4 (C), RT-4 (D) and MCF7 (E) whole cell lysates and mouse placenta tissue extract (F). Detection reagent used: m-IgGκ BP-HRP: sc-516102.

## 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. Not for resale.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.