

# LTRPC7 (H-4): sc-271099



The Power to Question

## BACKGROUND

Transient receptor potential (TRPC) ion channels are a super-family of six transmembrane segment-spanning, gated cation channels. TRPC subtypes mediate store-operated  $Ca^{2+}$  entry, a process involving  $Ca^{2+}$  influx and replenishment of  $Ca^{2+}$  stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other  $Ca^{2+}$  mobilizing agents. Trp ion channels influence calcium-depletion-induced calcium influx processes in response to chemo-, mechano- and osmo-regulatory events. LTRPC7 and LTRPC2 (TRPC7) are both members of the long TRPC subfamily, which is characterized by open reading frames of around 1,600 amino-acid residues. LTRPC7 is another divalent cation channel for  $Ca^{2+}$  and  $Mg^{2+}$ .

## CHROMOSOMAL LOCATION

Genetic locus: TRPM7 (human) mapping to 15q21.2; Trpm7 (mouse) mapping to 2 F1.

## SOURCE

LTRPC7 (H-4) is a mouse monoclonal antibody raised against amino acids 1251-1550 mapping within a C-terminal cytoplasmic domain of LTRPC7 of human 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.

LTRPC7 (H-4) is available conjugated to agarose (sc-271099 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271099 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271099 PE), fluorescein (sc-271099 FITC), Alexa Fluor® 488 (sc-271099 AF488), Alexa Fluor® 546 (sc-271099 AF546), Alexa Fluor® 594 (sc-271099 AF594) or Alexa Fluor® 647 (sc-271099 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271099 AF680) or Alexa Fluor® 790 (sc-271099 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

LTRPC7 (H-4) is recommended for detection of LTRPC7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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 LTRPC7 siRNA (h): sc-42662, LTRPC7 siRNA (m): sc-42663, LTRPC7 shRNA Plasmid (h): sc-42662-SH, LTRPC7 shRNA Plasmid (m): sc-42663-SH, LTRPC7 shRNA (h) Lentiviral Particles: sc-42662-V and LTRPC7 shRNA (m) Lentiviral Particles: sc-42663-V.

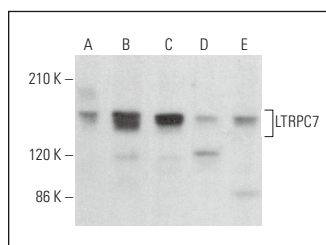
Molecular Weight of LTRPC7: 213 kDa.

Positive Controls: M1 whole cell lysate: sc-364782, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

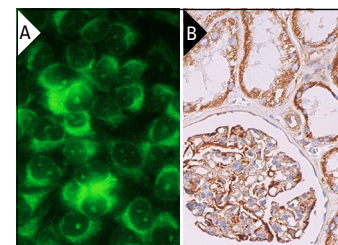
## RECOMMENDED SUPPORT REAGENTS

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. 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



LTRPC7 (H-4): sc-271099. Western blot analysis of LTRPC7 expression in HeLa (A), NIH/3T3 (B), RAW 264.7 (C), M1 (D) and P19 (E) whole cell lysates.



LTRPC7 (H-4): sc-271099. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cytoplasmic staining of cells in tubules (B).

## SELECT PRODUCT CITATIONS

- Cartwright, J.H., et al. 2020. Genetic variants in TRPM7 associated with unexplained stillbirth modify ion channel function. *Hum. Mol. Genet.* 29: 1797-1807.
- Limraksasin, P., et al. 2022. Application of shear stress for enhanced osteogenic differentiation of mouse induced pluripotent stem cells. *Sci. Rep.* 12: 19021.
- Ma, X., et al. 2024. TRPM7 controls skin keratinocyte senescence by targeting intracellular calcium signaling. *FEBS J.* E-published.

## 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](http://www.scbt.com) for detailed protocols and support products.