

# TRPC3/6/7 (H-100): sc-20111

## BACKGROUND

Transient receptor potential cation (TRPC) channels are a superfamily 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. TRPC ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. Human TRPC3 protein, also known as TRP3, is a cation channel that is predominantly expressed in brain. The activation of store-mediated  $Ca^{2+}$  entry in human cells likely occurs through the association between IP3R (inositol 1,4,5-trisphosphate receptors) and TRPC3. TRPC3 activity is also activated by DAG (diacylglycerol) independently of PKC (protein kinase C). Human TRPC6 is predominantly expressed in placenta, spleen, lung, small intestine and ovary. Also activated by diacylglycerol (DAG), TRPC6 comprises the  $\alpha 1$ -adrenoceptor-activated  $Ca^{2+}$ -permeable cation channel.

## REFERENCES

1. Wes, P.D., et al. 1995. TRPC1, a human homolog of a *Drosophila* store-operated channel. Proc. Natl. Acad. Sci. USA 92: 9652-9666.
2. Zhu, X., et al. 1995. Molecular cloning of a widely expressed human homologue for the *Drosophila* TRP gene. FEBS Lett. 373: 193-218.
3. Zitt, C., et al 1996. Cloning and functional expression of a human  $Ca^{2+}$ -permeable cation channel activated by calcium store depletion. Neuron 16: 1189-1196.
4. Philipp, S., et al. 1998. A novel capacitative calcium entry channel expressed in excitable cells. EMBO J. 17: 4274-4282.
5. Harteneck, C., et al. 2000. From worm to man: three subfamilies of TRP channels. Trends Neurosci. 23: 159-166.
6. Hofmann, T., et al. 2000. Transient receptor potential channels as molecular substrates of receptor-mediated cation entry. J. Mol. Med. 78: 14-25.

## SOURCE

TRPC3/6/7 (H-100) is a rabbit polyclonal antibody raised against amino acids 1-100 mapping at the N-terminus of TRPC3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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.

## PROTOCOLS

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

## APPLICATIONS

TRPC3/6/7 (H-100) is recommended for detection of TRPC3, TRPC6 and TRPC7 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 and 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).

TRPC3/6/7 (H-100) is also recommended for detection of TRPC3, TRPC6 and TRPC7 in additional species, including equine, canine, bovine, porcine and avian.

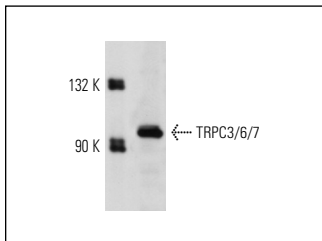
Molecular Weight of TRPC3: 97 kDa.

Molecular Weight of TRPC6: 106 kDa.

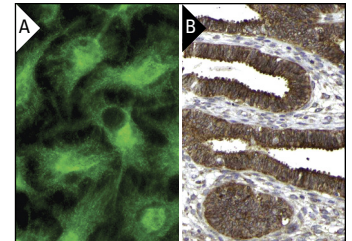
Molecular Weight of TRPC7: 100 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283 or NRK whole cell lysate.

## DATA



TRPC3/6/7 (H-100): sc-20111. Western blot analysis of TRPC3/6/7 expression in NRK whole cell lysate.



TRPC3/6/7 (H-100): sc-20111. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human endometrium tissue showing cytoplasmic staining of cells in endometrial stroma, myometrium and glandular cells (B). Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

1. Sanchez-Miranda, E., et al. 2010. Fyn kinase controls Fc $\epsilon$ RI receptor-operated calcium entry necessary for full degranulation in mast cells. Biochem. Biophys. Res. Commun. 391: 1714-1720.
2. Kucherenko, Y.V., et al. 2010. Increased cation conductance in human erythrocytes artificially aged by glycation. J. Membr. Biol. 235: 177-189.

## RESEARCH USE

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

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Try **TRPC3 (C-5): sc-514670**, our highly recommended monoclonal alternative to TRPC3/6/7 (H-100).