

# IK1 (C-16): sc-27082

## BACKGROUND

The intermediate conductance calcium-activated potassium channel protein 4 (SK4 or IK1) is a member of the KCNN family of potassium channels. IK1 is an integral membrane protein that functions in a variety of physiological functions. Activation of the IK1 channel is induced by intracellular calcium levels and regulated by calmodulin.

## REFERENCES

1. Warth, R., et al. 1999. Molecular and functional characterization of the small  $Ca^{2+}$ -regulated  $K^+$  channel (rSK4) of colonic crypts. *Pflugers Arch.* 438: 437-444.
2. von Hahn, T., et al. 2001. Characterisation of the rat SK4/IK1  $K^+$  channel. *Cell. Physiol. Biochem.* 11: 219-230.
3. Joiner, W.J., et al. 2001. Calmodulin regulates assembly and trafficking of SK4/IK1  $Ca^{2+}$ -activated  $K^+$  channels. *J. Biol. Chem.* 276: 37980-37985.
4. Tamarina, N.A., et al. 2003. Small-conductance calcium-activated  $K^+$  channels are expressed in pancreatic islets and regulate glucose responses. *Diabetes* 52: 2000-2006.
5. Takahata, T., et al. 2003. SK4/IK1-like channels mediate TEA-insensitive,  $Ca^{2+}$ -activated  $K^+$  currents in bovine parotid acinar cells. *Am. J. Physiol., Cell Physiol.* 284: 127-144.
6. Hayashi, M., et al. 2004. ATP-dependent regulation of SK4/IK1-like currents in rat submandibular acinar cells: possible role of cAMP-dependent protein kinase. *Am. J. Physiol., Cell Physiol.* 286: 635-646.
7. SWISS-PROT/TrEMBL (O15554). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: KCNN4 (human) mapping to 19q13.31; Kcnn4 (mouse) mapping to 7 A3.

## SOURCE

IK1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IK1 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.

Blocking peptide available for competition studies, sc-27082 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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

IK1 (C-16) is recommended for detection of IK1 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 (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IK1 (C-16) is also recommended for detection of IK1 in additional species, including canine.

Suitable for use as control antibody for IK1 siRNA (h): sc-72200, IK1 siRNA (m): sc-72201, IK1 shRNA Plasmid (h): sc-72200-SH, IK1 shRNA Plasmid (m): sc-72201-SH, IK1 shRNA (h) Lentiviral Particles: sc-72200-V and IK1 shRNA (m) Lentiviral Particles: sc-72201-V.

Molecular Weight of IK1: 45 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, NRK whole cell lysate: sc-364197 or HCT-116 whole cell lysate: sc-364175.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Xu, X., et al. 2012. Intermediate-conductance  $Ca^{2+}$ -activated potassium and volume-sensitive chloride channels in endothelial progenitor cells from rat bone marrow mononuclear cells. *Acta Physiol.* 205: 302-313.

## RESEARCH USE

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



Try **IK1 (D-5): sc-365265**, our highly recommended monoclonal alternative to IK1 (C-16).