

# IK1 (E-14): sc-27081

## 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  $\text{Ca}^{2+}$ -regulated  $\text{K}^+$  channel (rSK4) of colonic crypts. *Pflugers Arch.* 438: 437-444.
2. von Hahn, T., et al. 2001. Characterisation of the rat SK4/IK1  $\text{K}^+$  channel. *Cell. Physiol. Biochem.* 11: 219-230.
3. Joiner, W.J., et al. 2001. Calmodulin regulates assembly and trafficking of SK4/IK1  $\text{Ca}^{2+}$ -activated  $\text{K}^+$  channels. *J. Biol. Chem.* 276: 37980-37985.
4. Tamarina, N.A., et al. 2003. Small-conductance calcium-activated  $\text{K}^+$  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,  $\text{Ca}^{2+}$ -activated  $\text{K}^+$  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 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IK1 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27081 P, (100  $\mu\text{g}$  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.

## RESEARCH USE

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

## APPLICATIONS

IK1 (E-14) 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  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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 (E-14) is also recommended for detection of IK1 in additional species, including canine and porcine.

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.

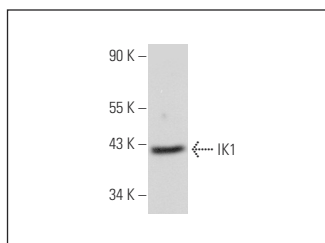
Molecular Weight of IK1: 45 kDa.

Positive Controls: mouse stomach extract: sc-394628, 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.

## DATA



IK1 (E-14): sc-27081. Western blot analysis of IK1 expression in mouse stomach tissue extract.

## SELECT PRODUCT CITATIONS

1. Barro-Soria, R., et al. 2010. ER-localized bestrophin 1 activates  $\text{Ca}^{2+}$ -dependent ion channels TMEM16A and SK4 possibly by acting as a counterion channel. *Pflugers Arch.* 459: 485-497.
2. Hirschler-Laszkiewicz, I., et al. 2012. Trpc2 depletion protects red blood cells from oxidative stress-induced hemolysis. *Exp. Hematol.* 40: 71-83.