

KCNA10 (N-16): sc-54391

BACKGROUND

KCNA10, also called cyclic GMP gated potassium channel, is a member of the Shaker-related subfamily of the potassium voltage-gated channel family. This 511 amino acid multipass membrane protein acts as a potassium-selective channel through which potassium ions flow in accordance with their electrochemical gradient. KCNA10 is expressed in human proximal tubular cells, glomerular and vascular endothelial cells, and vascular smooth muscle cells. KCNA10 takes on two conformations: the open conformation and the closed conformation. These conformations are determined by the voltage difference across the plasma membrane. KCNA10 shares common traits with K-selective and cyclic-nucleotide-gated (CNG) cation channels. The C-terminus of KCNA10 may be involved in targeting the channel to specific subcellular compartments. The S4 segment of KCNA10 is anticipated to be the voltage sensor due to its high sequence similarity to other closely related channel proteins.

REFERENCES

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- Lang, R., Lee, G., Liu, W., Tian, S., Rafi, H., Orias, M., Segal, A.S. and Desir, G.V. 2000. KCNA10: a novel ion channel functionally related to both voltage-gated potassium and CNG cation channels. *Am. J. Physiol. Renal Physiol.* 278: F1013-F1021.
- Yao, X., Tian, S., Chan, H.Y., Biemesderfer, D. and Desir, G.V. 2002. Expression of KCNA10, a voltage-gated K channel, in glomerular endothelium and at the apical membrane of the renal proximal tubule. *J. Am. Soc. Nephrol.* 13: 2831-2839.
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- Wang, W. 2004. Renal potassium channels: recent developments. *Curr. Opin. Nephrol. Hypertens.* 13: 549-555.

CHROMOSOMAL LOCATION

Genetic locus: KCNA10 (human) mapping to 1p13.3; Kcna10 (mouse) mapping to 3 F2.3.

SOURCE

KCNA10 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of KCNA10 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54391 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

KCNA10 (N-16) is recommended for detection of KCNA10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

KCNA10 (N-16) is also recommended for detection of KCNA10 in additional species, including bovine and porcine.

Suitable for use as control antibody for KCNA10 siRNA (h): sc-62527, KCNA10 siRNA (m): sc-62528, KCNA10 shRNA Plasmid (h): sc-62527-SH, KCNA10 shRNA Plasmid (m): sc-62528-SH, KCNA10 shRNA (h) Lentiviral Particles: sc-62527-V and KCNA10 shRNA (m) Lentiviral Particles: sc-62528-V.

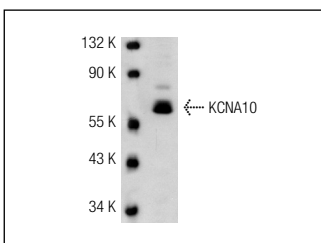
Molecular Weight of KCNA10: 58 kDa.

Positive Controls: NRK whole cell lysate: sc-364197.

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



KCNA10 (N-16): sc-54391. Western blot analysis of KCNA10 expression in NRK whole cell lysate.

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 or our catalog for detailed protocols and support products.