

KCNQ1 (C-20): sc-10646

BACKGROUND

Voltage-gated K⁺ channels in the plasma membrane control the repolarization and the frequency of action potentials in neurons, muscles and other excitable cells. A specific K⁺ channel, comprised of an α -subunit KCNQ1 and a β subunit KCNE1, a small protein which spans the membrane only once, is predominantly expressed in the heart and in the cochlea, and is responsible for regulating the slow, depolarization-activated potassium current. Mutations in the genes encoding for KCNQ1 and KCNE1 lead to cardiac disease because they directly impair electrical signaling, and mutations in KCNQ4 are implicated in the onset of deafness. KCNQ proteins, including KCNQ1 and KCNQ4, characteristically contain six transmembrane domains and function as tetramers. KCNQ4 forms heteromeric channels with KCNQ3 and is expressed in several tissues, including the cochlea, where it is present in outer hair cells.

CHROMOSOMAL LOCATION

Genetic locus: KCNQ1 (human) mapping to 11p15.5; Kcnq1 (mouse) mapping to 7 F5.

SOURCE

KCNQ1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of KCNQ1 of human origin.

PRODUCT

Each vial contains 100 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-10646 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KCNQ1 (C-20) is recommended for detection of KCNQ1 isoforms 1 and 2 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), 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).

KCNQ1 (C-20) is also recommended for detection of KCNQ1 isoforms 1 and 2 in additional species, including canine and bovine.

Suitable for use as control antibody for KCNQ1 siRNA (h): sc-35745, KCNQ1 siRNA (m): sc-35746, KCNQ1 shRNA Plasmid (h): sc-35745-SH, KCNQ1 shRNA Plasmid (m): sc-35746-SH, KCNQ1 shRNA (h) Lentiviral Particles: sc-35745-V and KCNQ1 shRNA (m) Lentiviral Particles: sc-35746-V.

Molecular Weight of KCNQ1 isoforms 1/2: 75/61 kDa.

Positive Controls: KCNQ1 (h): 293T Lysate: sc-128911, Sol8 cell lysate: sc-2249 or mouse kidney extract: sc-2255.

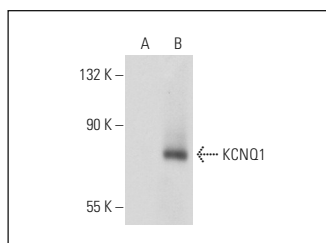
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

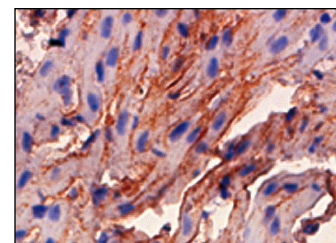
RESEARCH USE

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

DATA



KCNQ1 (C-20): sc-10646. Western blot analysis of KCNQ1 expression in non-transfected: sc-117752 (A) and human KCNQ1 transfected: sc-128911 (B) 293T whole cell lysates.



KCNQ1 (C-20): sc-10646. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse heart tissue showing membrane localization.

SELECT PRODUCT CITATIONS

- Marx, S.O., et al. 2002. Requirement of a macromolecular signaling complex for β -adrenergic receptor modulation of the KCNQ1/KCNE1 potassium channel. *Science* 295: 496-499.
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- Zhang, X., et al. 2011. KCNQ5/K(v)7.5 potassium channel expression and subcellular localization in primate retinal pigment epithelium and neural retina. *Am. J. Physiol., Cell Physiol.* 301: C1017-C1026.

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Try **KCNQ1 (G-8): sc-365186** or **KCNQ1 (E-7): sc-365764**, our highly recommended monoclonal alternatives to KCNQ1 (C-20).