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 it 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.

REFERENCES

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

SOURCE
KCNQ1 (H-130) is a rabbit polyclonal antibody raised against amino acids 547-676 mapping at the C-terminus of KCNQ1 of human origin.

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

APPLICATIONS
KCNQ1 (H-130) 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 µg per 100-500 µg 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).

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 isoform 1: 75 kDa.
Molecular Weight of KCNQ1 isoform 2: 61 kDa.
Positive Controls: Sol8 cell lysate: sc-2249, mouse heart extract: sc-2254 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.

DATA

SELECT PRODUCT CITATIONS

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