SANTA CRUZ BIOTECHNOLOGY, INC.

KCNE3 (N-18): sc-10647

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. KCNE3 (potassium voltage-gated channel, Isk-related family, member 3), also known as HYPP, potassium channel subunit β MiRP2 or HOKPP, is a 103 amino acid single-pass type I membrane protein belonging to the potassium channel KCNE family. Expressed predominantly in kidney, KCNE3 is also found at moderate levels in small intestine and associates with a voltage-gated potassium channel complex to regulate stability and gating kinetics. The gene encoding KCNE3 maps to human chromosome 11q13.4; defects in which are the cause of an autosomal dominant disorder known as periodic paralysis hypokalemic (or HOKPP), a muscular disorder known as thyrotoxic periodic paralysis type 1 (TTPP1) and Brugada syndrome type 6 (BRS6).

REFERENCES

1. Schroeder, B.C., et al. 2000. A constitutively open potassium channel formed by KCNQ1 and KCNE3. Nature. 403: 196-199.
2. Abbott, G.W. and Goldstein, S.A. 2002. Disease-associated mutations in KCNE potassium channel subunits (MiRPs) reveal promiscuous disruption of multiple currents and conservation of mechanism. FASEB J. 16: 390-400.
3. Dias Da Silva, M.R., et al. 2002. A mutation in the KCNE3 potassium channel gene is associated with susceptibility to thyrotoxic hypokalemic periodic paralysis. J. Clin. Endocrinol. Metab. 87: 4881-4884.
4. Mazhari, R., et al. 2002. Ectopic expression of KCNE3 accelerates cardiac repolarization and abbreviates the QT interval. J. Clin. Invest. 109: 1083-1090.

CHROMOSOMAL LOCATION

Genetic locus: KCNE3 (human) mapping to 11q13.4; Kcne3 (mouse) mapping to 7 E2.

SOURCE

KCNE3 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of KCNE3 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.

Blocking peptide available for competition studies, sc-10647 P, (100 µg 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

KCNE3 (N-18) is recommended for detection of KCNE3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

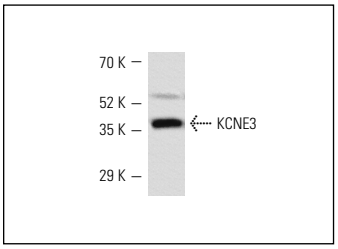
KCNE3 (N-18) is also recommended for detection of KCNE3 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for KCNE3 siRNA (h): sc-35743, KCNE3 siRNA (m): sc-35744, KCNE3 shRNA Plasmid (h): sc-35743-SH, KCNE3 shRNA Plasmid (m): sc-35744-SH, KCNE3 shRNA (h) Lentiviral Particles: sc-35743-V and KCNE3 shRNA (m) Lentiviral Particles: sc-35744-V.

Molecular Weight of KCNE3: 12 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



KCNE3 (N-18): sc-10647. Western blot analysis of KCNE3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ohya, S., et al. 2002. Functional and molecular identification of ERG channels in murine portal vein myocytes. Am. J. Physiol., Cell Physiol. 283: C866-C877.
2. Liao, T., et al. 2005. K^+ channel K_VLQT1 located in the basolateral membrane of distal colonic epithelium is not essential for activating Cl^- secretion. Am. J. Physiol., Cell Physiol. 289: C564-C575.
3. Delpón, E., et al. 2008. Functional effects of KCNE3 mutation and its role in the development of Brugada syndrome. 1: 209-218.
4. Clancy, S.M., et al. 2009. KCNE1 and KCNE3 β-subunits regulate membrane surface expression of Kv12.2 K^+ channels *in vitro* and form a tripartite complex *in vivo*. PLoS ONE 4: e6330.