SANTA CRUZ BIOTECHNOLOGY, INC.

KCNE3 (G-6): sc-393841

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. Abbott, G.W., et al. 1999. MiRP1 forms IKr potassium channels with HERG and is associated with cardiac arrhythmia. Cell 97: 175-187.
2. Abbott, G.W., et al. 2001. MiRP2 forms potassium channels in skeletal muscle with Kv3.4 and is associated with periodic paralysis. Cell 104: 217-231.
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. Tang, N.L., et al. 2004. No mutation in the KCNE3 potassium channel gene in Chinese thyrotoxic hypokalaemic periodic paralysis patients. Clin. Endocrinol. 61: 109-112.

CHROMOSOMAL LOCATION

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

SOURCE

KCNE3 (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of KCNE3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KCNE3 (G-6) is available conjugated to agarose (sc-393841 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393841 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393841 PE), fluorescein (sc-393841 FITC), Alexa Fluor® 488 (sc-393841 AF488), Alexa Fluor® 546 (sc-393841 AF546), Alexa Fluor® 594 (sc-393841 AF594) or Alexa Fluor® 647 (sc-393841 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393841 AF680) or Alexa Fluor® 790 (sc-393841 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393841 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

KCNE3 (G-6) is recommended for detection of KCNE3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (G-6) is also recommended for detection of KCNE3 in additional species, including canine and porcine.

Suitable for use as control antibody for KCNE3 siRNA (h): sc-35743, KCNE3 siRNA (m): sc-35744, KCNE3 siRNA (porcine): sc-270690, KCNE3 shRNA Plasmid (h): sc-35743-SH, KCNE3 shRNA Plasmid (m): sc-35744-SH, KCNE3 shRNA Plasmid (porcine): sc-270690-SH, KCNE3 shRNA (h) Lentiviral Particles: sc-35743-V, KCNE3 shRNA (m) Lentiviral Particles: sc-35744-V and KCNE3 shRNA (porcine) Lentiviral Particles: sc-270690-V.

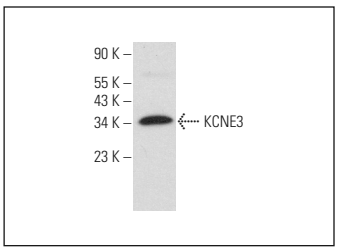
Molecular Weight of KCNE3: 12 kDa.

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

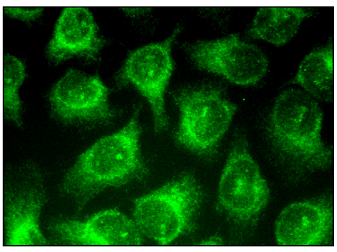
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KCNE3 (G-6): sc-393841. Western blot analysis of KCNE3 expression in HeLa whole cell lysate.



KCNE3 (G-6): sc-393841. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.