

KCNRG (A-9): sc-390290

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. The KV gene family encodes more than 30 genes that comprise the subunits of the K⁺ channels and they vary in their gating and permeation properties, subcellular distribution and expression patterns. The potassium channel regulator KCNRG inhibits potassium fluxes in cells, specifically through Kv1.1 and Kv1.4 channels. KCNRG maps to human chromosome 13q, a region frequently prone to deletions. Subsequently, loss of the tumor suppressor actions of KCNRG has been shown to lead to gastrointestinal stromal tumors, hepatocellular carcinomas, as well as other soft tissue tumors. In addition, production of autoantibodies to KCNRG contribute to the pulmonary symptoms of patients with autoimmune polyendocrine syndrome type 1 (APS-1).

REFERENCES

- Ivanov, D.V., et al. 2003. A new human gene KCNRG encoding potassium channel regulating protein is a cancer suppressor gene candidate located in 13q14.3. *FEBS Lett.* 539: 156-160.
- Cho, Y.G., et al. 2006. Genetic and expression analysis of the KCNRG gene in hepatocellular carcinomas. *Exp. Mol. Med.* 38: 247-255.
- Zhou, W.X., et al. 2007. Analysis of 13q14 chromosomal instability in soft tissue tumors by fluorescence *in-situ* hybridization. *Zhonghua Bing Li Xue Za Zhi* 36: 582-586.
- Usman, H., et al. 2009. Potassium channel regulator KCNRG regulates surface expression of Shaker-type potassium channels. *Biochem. Biophys. Res. Commun.* 391: 1301-1305.
- Zhou, W., et al. 2009. Aberrations of chromosome 13q in gastrointestinal stromal tumors: analysis of 91 cases by fluorescence *in situ* hybridization (FISH). *Diagn. Mol. Pathol.* 18: 72-80.

CHROMOSOMAL LOCATION

Genetic locus: KCNRG (human) mapping to 13q14.2; Kcng (mouse) mapping to 14 D1.

SOURCE

KCNRG (A-9) is a mouse monoclonal antibody raised against amino acids 11-189 mapping near the N-terminus of KCNRG of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KCNRG (A-9) is available conjugated to agarose (sc-390290 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390290 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390290 PE), fluorescein (sc-390290 FITC), Alexa Fluor® 488 (sc-390290 AF488), Alexa Fluor® 546 (sc-390290 AF546), Alexa Fluor® 594 (sc-390290 AF594) or Alexa Fluor® 647 (sc-390290 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390290 AF680) or Alexa Fluor® 790 (sc-390290 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

KCNRG (A-9) is recommended for detection of KCNRG 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), 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 KCNRG siRNA (h): sc-75372, KCNRG siRNA (m): sc-146372, KCNRG shRNA Plasmid (h): sc-75372-SH, KCNRG shRNA Plasmid (m): sc-146372-SH, KCNRG shRNA (h) Lentiviral Particles: sc-75372-V and KCNRG shRNA (m) Lentiviral Particles: sc-146372-V.

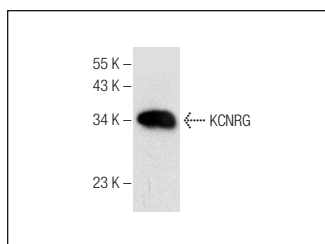
Molecular Weight of KCNRG isoforms: 31/26 kDa.

Positive Controls: mouse liver extract: sc-2256.

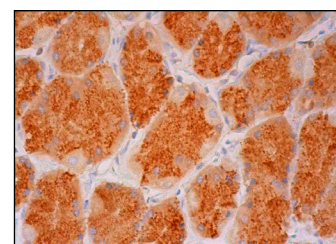
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



KCNRG (E-12): sc-390290. Western blot analysis of KCNRG expression in mouse liver tissue extract.



KCNRG (A-9): sc-390290. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

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.

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