SANTA CRUZ BIOTECHNOLOGY, INC.

KIR5.1 (N-12): sc-22434

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

The KIR (for inwardly rectifying potassium channel) family of potassium channels possess a greater tendency to allow potassium to flow into the cell rather than out of it. KIR4.1, also known as KIR1.2, is highly expressed in brain including glial cells, astrocytes and cortical neurons. KIR4.1 is also expressed in myelin-synthesizing oligodendrocytes and is crucial to myelination in the developing nervous system. The gene encoding human KIR4.1 maps to chromosome 1. KIR4.2, also known as KIR1.3, is expressed in kidney, lung, heart, thymus and thyroid during development. The gene encoding human KIR4.2 maps to chromosome 21 in the Down syndrome chromosome region 1, and KIR4.2 may play a role in the pathogenesis of Down's syndrome. KIR5.1 forms functional channels only by coexpression with either KIR4.1 or KIR4.2 in the kidney and pancreas. The gene encoding human KIR5.1 maps to chromosome 17.

REFERENCES

1. Gosset, P., et al. 1997. A new inward rectifier potassium channel gene (KCNJ15) localized on chromosome 21 in the Down syndrome chromosome region 1 (DcR1). Genomics 44: 237-241.
2. Isomoto, S., et al. 1997. Inwardly rectifying potassium channels: their molecular heterogeneity and function. J. Physiol. 47: 11-39.
3. Shuck, M.E., et al. 1997. Cloning and characterization of two K^+ inward rectifier (KIR) 1.1 potassium channel homologs from human kidney (KIR1.2 and KIR1.3). J. Biol. Chem. 272: 586-593.
4. Thiery, E., et al. 2000. Developmentally regulated expression of the murine ortholog of the potassium channel KIR4.2 (KCNJ15). Mech. Dev. 95: 313-336.
5. Liu, Y., et al. 2000. The human inward rectifier K^+ channel subunit KIR5.1 (KCNJ16) maps to chromosome 17q25 and is expressed in kidney and pancreas. Cytogenet. Cell Genet. 90: 60-63.
6. Pessia, M., et al. 2001. Differential pH sensitivity of KIR4.1 and KIR4.2 potassium channels and their modulation by heteropolymerisation with KIR5.1. J. Physiol. 532: 359-367.
7. Li, L., et al. 2001. Identification of an inward rectifier potassium channel gene expressed in mouse cortical astrocytes. Glia 33: 57-71.

CHROMOSOMAL LOCATION

Genetic locus: KCNJ16 (human) mapping to 17q24.3; Kcnj16 (mouse) mapping to 11 E2.

SOURCE

KIR5.1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of KIR5.1 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-22434 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KIR5.1 (N-12) is recommended for detection of KIR5.1 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).

KIR5.1 (N-12) is also recommended for detection of KIR5.1 in additional species, including equine, canine and porcine.

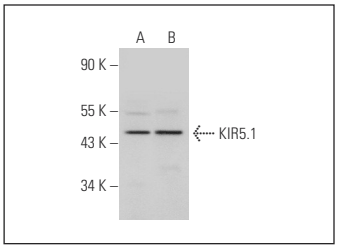
Suitable for use as control antibody for KIR5.1 siRNA (h): sc-42626, KIR5.1 shRNA Plasmid (h): sc-42626-SH and KIR5.1 shRNA (h) Lentiviral Particles: sc-42626-V.

Positive Controls: HEK293 whole cell lysate: sc-45136 or Neuro-2A whole cell lysate: sc-364185.

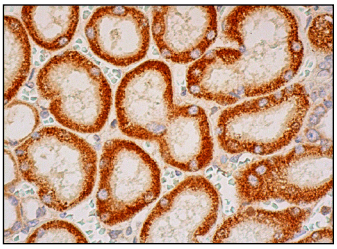
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



KIR5.1 (N-12): sc-22434. Western blot analysis of KIR5.1 expression in HEK293 (**A**) and Neuro-2A (**B**) whole cell lysates.



KIR5.1 (N-12): sc-22434. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

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.