SANTA CRUZ BIOTECHNOLOGY, INC.

KIR6.2 (B-9): sc-390104

BACKGROUND

ATP-sensitive K^+ channels play important roles in many cellular functions by coupling cell metabolism to electrical activity. KIR6.1 and KIR6.2 are members of the KIR (for inwardly rectifying potassium channel) family of potassium channels. Inward rectifying K^+ channels possess a greater tendency to allow potassium to flow into the cell rather than out of it. These channels comprise two subunits: a KIR6.0 subfamily component and a SUR component, which is a member of the ATP-binding cassette protein superfamily. Mutations in the gene coding for these channels are a cause of an autosomal recessive disorder characterized by unregulated Insulin secretion. The amino-terminal and carboxyl-terminal domains of KIR channel subunits are both intracellular, and the two intracellular domains of KIR6.2 physically interact with each other.

REFERENCES

1. Inagaki, N., et al. 1995. Reconstitution of I_{KATP}: an inward rectifier subunit plus the sulfonylurea receptor. Science 270: 1166-1170.
2. Isomoto, S., et al. 1997. Inwardly rectifying potassium channels: their molecular heterogeneity and function. Jpn. J. Physiol. 47: 11-39.

CHROMOSOMAL LOCATION

Genetic locus: KCNJ11 (human) mapping to 11p15.1; Kcnj11 (mouse) mapping to 7 B4.

SOURCE

KIR6.2 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 301-337 within an internal region of KIR6.2 of human origin.

PRODUCT

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

KIR6.2 (B-9) is available conjugated to agarose (sc-390104 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390104 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390104 PE), fluorescein (sc-390104 FITC), Alexa Fluor® 488 (sc-390104 AF488), Alexa Fluor® 546 (sc-390104 AF546), Alexa Fluor® 594 (sc-390104 AF594) or Alexa Fluor® 647 (sc-390104 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390104 AF680) or Alexa Fluor® 790 (sc-390104 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

KIR6.2 (B-9) is recommended for detection of KIR6.2 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).

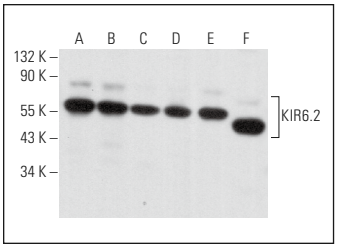
KIR6.2 (B-9) is also recommended for detection of KIR6.2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for KIR6.2 siRNA (h): sc-42628, KIR6.2 siRNA (m): sc-42629, KIR6.2 siRNA (r): sc-270034, KIR6.2 shRNA Plasmid (h): sc-42628-SH, KIR6.2 shRNA Plasmid (m): sc-42629-SH, KIR6.2 shRNA Plasmid (r): sc-270034-SH, KIR6.2 shRNA (h) Lentiviral Particles: sc-42628-V, KIR6.2 shRNA (m) Lentiviral Particles: sc-42629-V and KIR6.2 shRNA (r) Lentiviral Particles: sc-270034-V.

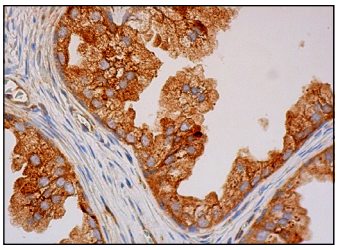
Molecular Weight of KIR6.2: 40-56 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

DATA



KIR6.2 (B-9): sc-390104. Western blot analysis of KIR6.2 expression in HeLa (**A**), HL-60 (**B**), Hep G2 (**C**), MCF7 (**D**), MIA PaCa-2 (**E**) and 3T3-L1 (**F**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



KIR6.2 (B-9): sc-390104. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Ban, Y., et al. 2015. A highly polarized excitable cell separates sodium channels from sodium-activated potassium channels by more than a millimeter. J. Neurophysiol. 114: 520-530.
2. Zhou, J., et al. 2022. Deletion of serine racemase reverses neuronal Insulin signaling inhibition by amyloid-β oligomers. J. Neurochem. 163: 8-25.
3. Cheng, Y., et al. 2023. Follicle-stimulating hormone orchestrates glucose-stimulated Insulin secretion of pancreatic islets. Nat. Commun. 14: 6991.
4. Picard, E., et al. 2024. Glyburide confers neuroprotection against age-related macular degeneration (AMD). Transl. Res. 272: 81-94.

RESEARCH USE

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