SANTA CRUZ BIOTECHNOLOGY, INC.

KIR6.2 (D-14): sc-11230

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 potasium 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 IKATP: 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.
3. Inagaki, N., et al. 1998. ATP-sensitive potassium channels: structures, functions, and pathophysiology. Jpn. J. Physiol. 48: 397-412.
4. Tucker, S.J., et al. 1999. Mapping of the physical interaction between the intracellular domains of an inwardly rectifying potassium channel, KIR6.2. J. Biol. Chem. 274: 33393-33397.
5. Meissner, T., et al. 1999. Congenital hyperInsulinism: molecular basis of a heterogeneous disease. Hum. Mutat. 13: 351-361.
6. Miki, T., et al. 1999. The structure and function of the ATP-sensitive K^+ channel in Insulin-secreting pancreatic β cells. J. Mol. Endocrinol. 22: 113-123.
7. Seino, S. 1999. ATP-sensitive potassium channels: a model of heteromultimeric potassium channel/receptor assemblies. Annu. Rev. Physiol. 61: 337-362.

CHROMOSOMAL LOCATION

Genetic locus: Kcnj11 (mouse) mapping to 7 B4.

SOURCE

KIR6.2 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KIR6.2 of mouse 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-11230 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

KIR6.2 (D-14) is recommended for detection of KIR6.2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

KIR6.2 (D-14) is also recommended for detection of KIR6.2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for KIR6.2 siRNA (m): sc-42629, KIR6.2 siRNA (r): sc-270034, KIR6.2 shRNA Plasmid (m): sc-42629-SH, KIR6.2 shRNA Plasmid (r): sc-270034-SH, 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: mouse brain extract: sc-2253 or Sol8 cell lysate: sc-2249.

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) 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.

SELECT PRODUCT CITATIONS

1. Rusznak, Z., et al. 2004. Differential distribution of TASK-1, TASK-2 and TASK-3 immunoreactivities in the rat and human cerebellum. Cell. Mol. Life Sci. 61: 1532-1542.
2. Bordone, L., et al. 2005. Sirt1 regulates Insulin secretion by repressing UCP2 in pancreatic β cells. PLoS Biol. 4: e31.
3. Annicotte, J.S., et al. 2009. The CDK4-pRB-E2F1 pathway controls Insulin secretion. Nat. Cell Biol. 11: 1017-1023.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.