SANTA CRUZ BIOTECHNOLOGY, INC.

KIR2.4 (L-18): sc-23633

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. The KIR (inwardly rectifying potassium channel) family of potassium channels, including the KIR2 subfamily, are thought to underlie the inward rectifier current (IK1) in the heart and play an important role in the central nervous system. Inward rectifying K^+ channels possess a greater tendency to allow potasium to flow into the cell rather than out of it. A fourth subunit of the KIR2 group, with somewhat different properties from the other KIR2 subunits, is designated KIR2.4. and was assigned to chromosome 19q13 and designated KCNJ14. KIR2.4 is preferentially expressed in the neural retina and are present in most retinal neurons.

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. Seino, S. 1999. ATP-sensitive potassium channels: a model of heteromultimeric potassium channel/receptor assemblies. Annu. Rev. Physiol. 61: 337-362.
5. 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.
6. Meissner, T., et al. 1999. Congenital hyperinsulinism: molecular basis of a heterogeneous disease. Hum. Mutat. 13: 351-361.
7. Hughes, B.A., et al. 2000. Cloning and functional expression of human retinal KIR2.4, a pH-sensitive inwardly rectifying K^+ channel. Am. J. Physiol., Cell Physiol. 279: C771-C784.
8. Schram, G., et al. 2002. KIR2.4 and KIR2.1 K^+ channel subunits co-assemble: a potential new contributor to inward rectifier current heterogeneity. J. Physiol. 544: 337-349.

CHROMOSOMAL LOCATION

Genetic locus: KCNJ14 (human) mapping to 19q13; Kcnj14 (mouse) mapping to 7 B4.

SOURCE

KIR2.4 (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of KIR2.4 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-23633 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KIR2.4 (L-18) is recommended for detection of KIR2.4 of mouse, rat and human 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).

KIR2.4 (L-18) is also recommended for detection of KIR2.4 in additional species, including equine and bovine.

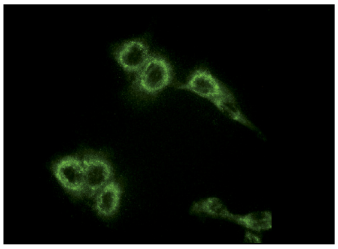
Suitable for use as control antibody for KIR2.4 siRNA (h): sc-106873, KIR2.4 siRNA (m): sc-146486, KIR2.4 shRNA Plasmid (h): sc-106873-SH, KIR2.4 shRNA Plasmid (m): sc-146486-SH, KIR2.4 shRNA (h) Lentiviral Particles: sc-106873-V and KIR2.4 shRNA (m) Lentiviral Particles: sc-146486-V.

Positive Controls: 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.

DATA



KIR2.4 (L-18): sc-23633. Immunofluorescence staining of methanol-fixed Sol8 cells showing membrane 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.

PROTOCOLS

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