

SUR-2B (C-15): sc-5793

BACKGROUND

Both sulphonylurea receptor-1 (SUR-1) and sulphonylurea receptor-2 (SUR-2) belong to the ATP-binding cassette superfamily associated with KIR6.x. SUR-1 and KIR6.x proteins are required for the regulation of glucose-induced Insulin secretion by controlling K-ATP channel activity of the pancreatic β -cell membrane while SUR-2 and KIR6.x proteins reconstitute the cardiac and the vascular-smooth-muscle-type K-ATP channels. Loss-of-function mutations in the SUR-1 gene causes the disease persistent hyperinsulinemic hypoglycemia of infancy (PHHI). PHHI is characterized by increased irregular Insulin secretion, which causes disorganized formation of new islets and leads to hypoglycemia, coma and severe brain damage. The K-ATP channels controlled by SUR-2 are activated during myocardial ischemia, which suggests that mutations in the SUR-2 gene may cause channel malfunction and ischemic injury to the heart. No disease has yet been found to be associated with the SUR-2 gene.

CHROMOSOMAL LOCATION

Genetic locus: Abcc9 (mouse) mapping to 6 G2.

SOURCE

SUR-2B (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SUR-2B of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5793 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SUR-2B (C-15) is recommended for detection of SUR-2B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

SUR-2B (C-15) is also recommended for detection of SUR-2B in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SUR-2B siRNA (h): sc-44132, SUR-2 siRNA (m): sc-42637, SUR-2B shRNA Plasmid (h): sc-44132-SH, SUR-2 shRNA Plasmid (m): sc-42637-SH, SUR-2B shRNA (h) Lentiviral Particles: sc-44132-V and SUR-2 shRNA (m) Lentiviral Particles: sc-42637-V.

Positive Controls: JAR cell lysate: sc-2276 or IMR-32 cell lysate: sc-2409.

RESEARCH USE

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

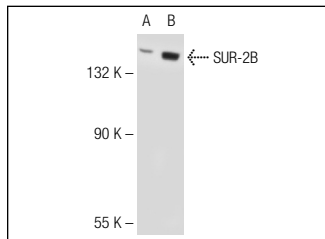
PROTOCOLS

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

STORAGE

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

DATA



SUR-2B (C-15): sc-5793. Western blot analysis of SUR-2B expression in JAR (A) and IMR-32 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Lacza, Z., et al. 2003. Heart mitochondria contain functional ATP-dependent K⁺ channels. *J. Mol. Cell. Cardiol.* 35: 1339-1347.
- Tai, K.K., et al. 2003. Activation of mitochondrial ATP-sensitive potassium channels increases cell viability against rotenone-induced cell death. *J. Neurochem.* 84: 1193-1200.
- Chen, M., et al. 2003. Functional coupling between sulfonylurea receptor type 1 and a nonselective cation channel in reactive astrocytes from adult rat brain. *J. Neurosci.* 23: 8568-8577.
- Jiang, M.T., et al. 2006. Characterization of human cardiac mitochondrial ATP-sensitive potassium channel and its regulation by phorbol ester *in vitro*. *Am. J. Physiol. Heart Circ. Physiol.* 290: H1770-H1776.
- Aishima, M., et al. 2006. Actions of ZD0947, a novel ATP-sensitive K⁺ channel opener, on membrane currents in human detrusor myocytes. *Br. J. Pharmacol.* 149: 542-550.
- Shorter, K., et al. 2008. Human hair follicles contain two forms of ATP-sensitive potassium channels, only one of which is sensitive to minoxidil. *FASEB J.* 22: 1725-1736.
- Ploug, K.B., et al. 2008. K-ATP channel expression and pharmacological *in vivo* and *in vitro* studies of the K-ATP channel blocker PNU-37883A in rat middle meningeal arteries. *Br. J. Pharmacol.* 154: 72-81.
- Philip-Couderc, P., et al. 2008. Forkhead transcription factors coordinate expression of myocardial KATP channel subunits and energy metabolism. *Circ. Res.* 102: e20-e35.
- Maack, C., et al. 2009. Endogenous activation of mitochondrial KATP channels protects human failing myocardium from hydroxyl radical-induced stunning. *Circ. Res.* 105: 811-817.
- Purves, G.I., et al. 2009. Exchange protein activated by cAMP (Epac) mediates cAMP-dependent but protein kinase A-insensitive modulation of vascular ATP-sensitive potassium channels. *J. Physiol.* 587: 3639-3650.
- Xu, C., et al. 2011. Expression of ATP-sensitive potassium channels in human pregnant myometrium. *Reprod. Biol. Endocrinol.* 9: 35.