SANTA CRUZ BIOTECHNOLOGY, INC.

MaxiKα (B-1): sc-374142

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The KCNMA1 gene, located on chromosome 10q22.3, encodes MaxiKα (also designated calcium-activated potassium channel, large conductance calcium- and voltage-dependent potassium channel α subunit, Slo α subunit and BKCA α subunit). MaxiKα carboxyl terminal is spliced to form nine transcripts. MaxiKα is expressed in neurons and smooth muscle tissue. It associates with MaxiKβ to form Ca^{2+}-activated K^+ channels (also designated Maxi-K or BK channels) and forms the potassium-permeable pore in these channels, which respond primarily to increases in intracellular calcium ion concentrations. Maxi-K channels are also known to interact with hormones, such as estradiol. MaxiKβ can regulate the sensitivity of MaxiKα to calcium. Maxi-K channels may be involved in cell shrinkage and caspase activation, which leads to pulmonary vascular smooth muscle cell apoptosis.

CHROMOSOMAL LOCATION

Genetic locus: KCNMA1 (human) mapping to 10q22.3; Kcnma1 (mouse) mapping to 14 A3.

SOURCE

MaxiKα (B-1) is a mouse monoclonal antibody raised against amino acids 937-1236 mapping at the C-terminus of MaxiKα of human origin.

PRODUCT

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

MaxiKα (B-1) is available conjugated to agarose (sc-374142 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374142 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374142 PE), fluorescein (sc-374142 FITC), Alexa Fluor® 488 (sc-374142 AF488), Alexa Fluor® 546 (sc-374142 AF546), Alexa Fluor® 594 (sc-374142 AF594) or Alexa Fluor® 647 (sc-374142 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374142 AF680) or Alexa Fluor® 790 (sc-374142 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MaxiKα (B-1) is recommended for detection of MaxiKα 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MaxiKα (B-1) is also recommended for detection of MaxiKα in additional species, including bovine and porcine.

Suitable for use as control antibody for MaxiKα siRNA (h): sc-42511, MaxiKα siRNA (m): sc-42512, MaxiKα shRNA Plasmid (h): sc-42511-SH, MaxiKα shRNA Plasmid (m): sc-42512-SH, MaxiKα shRNA (h) Lentiviral Particles: sc-42511-V and MaxiKα shRNA (m) Lentiviral Particles: sc-42512-V.

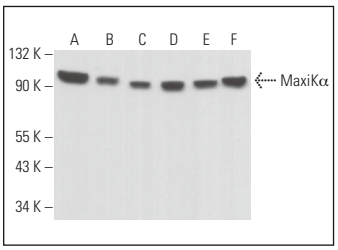
Molecular Weight of MaxiKα native α subunit: 125 kDa.

Molecular Weight of MaxiKα purified α subunit: 65 kDa.

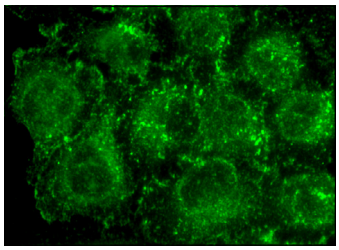
STORAGE

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

DATA



MaxiKα (B-1): sc-374142. Western blot analysis of MaxiKα expression in Ca Ski (**A**), PC-3 (**B**), F9 (**C**), Sol8 (**D**), A-10 (**E**) and L6 (**F**) whole cell lysates.



MaxiKα (B-1): sc-374142. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Kim, J.B., et al. 2014. The large-conductance calcium-activated potassium channel holds the key to the conundrum of familial hypokalemic periodic paralysis. Korean J. Pediatr. 57: 445-450.
2. Feng, D., et al. 2017. Expression and alteration of BK_{Ca} channels in the sphincter of Oddi's from rabbits with hypercholesterolemia. Channels 11: 236-244.
3. Nimpf, S., et al. 2019. A putative mechanism for magnetoreception by electromagnetic induction in the pigeon inner ear. Curr. Biol. 29: 4052-4059.e4.
4. Chen, X., et al. 2020. Prenatal hypoxia attenuated contraction of offspring coronary artery associated with decreased PKCβ Ser660 phosphorylation and intracellular calcium. Life Sci. 261: 118364.
5. Song, R., et al. 2021. Ryanodine receptor subtypes regulate Ca^{2+} sparks/ spontaneous transient outward currents and myogenic tone of uterine arteries in pregnancy. Cardiovasc. Res. 117: 792-804.
6. Yin, H., et al. 2022. TRPC6 interacted with $K_{Ca}1.1$ channels to regulate the proliferation and apoptosis of glioma cells. Arch. Biochem. Biophys. 725: 109268.
7. Chen, A.L., et al. 2023. Calcium-activated big-conductance (BK) potassium channels traffic through nuclear envelopes into kinocilia in ray electrosensory cells. Cells 12: 2125.
8. Magierowska, K., et al. 2023. The mitochondria-targeted sulfide delivery molecule attenuates drugs-induced gastropathy. Involvement of heme oxygenase pathway. Redox Biol. 66: 102847.

RESEARCH USE

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