

MaxiK β (A-5): sc-377023

BACKGROUND

The KCNMB1 gene, located on chromosome 5q35.1, contains four exons and encodes the 191 amino-acid protein MaxiK β subunit 1 (also designated calcium-activated potassium channel β subunit, BK channel β subunit, Slo- β and KVCA β). MaxiK β subunit 1 consists of two putative transmembrane domains, an extracellular loop containing three consensus sequences for N-linked glycosylation and four cysteine residues that might form disulfide bridges. One of four subunits in the MaxiK β family, MaxiK β subunit 1 is expressed predominately in smooth muscle tissue but is also found in brain, liver and lymphatic tissues. MaxiK β subunit 1 associates with MaxiK α to form a calcium-activated potassium channel (also designated MaxiK and BK channel) and increases the sensitivity of the MaxiK α to calcium and voltage. The α/β channel is the most sensitive of all Maxi channels to calcium. MaxiK β plays an important role in vasoregulation by controlling the sensitivity of MaxiK channels to calcium, which leads to the proper amount of arterial relaxation.

REFERENCES

1. Knaus, H.G., et al. 1994. Primary sequence and immunological characterization of β -subunit of high conductance Ca²⁺-activated K⁺ channel from smooth muscle. *J. Biol. Chem.* 269: 17274-17278.
2. Tseng-Crank, J., et al. 1996. Cloning, expression, and distribution of a Ca²⁺-activated K⁺ channel β -subunit from human brain. *Proc. Natl. Acad. Sci. USA* 93: 9200-9205.

CHROMOSOMAL LOCATION

Genetic locus: KCNMB1 (human) mapping to 5q35.1; Kcnmb1 (mouse) mapping to 11 A4.

SOURCE

MaxiK β (A-5) is a mouse monoclonal antibody raised against amino acids 1-191 representing full length MaxiK β of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MaxiK β (A-5) is available conjugated to agarose (sc-377023 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377023 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377023 PE), fluorescein (sc-377023 FITC), Alexa Fluor[®] 488 (sc-377023 AF488), Alexa Fluor[®] 546 (sc-377023 AF546), Alexa Fluor[®] 594 (sc-377023 AF594) or Alexa Fluor[®] 647 (sc-377023 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377023 AF680) or Alexa Fluor[®] 790 (sc-377023 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

MaxiK β (A-5) is recommended for detection of MaxiK β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

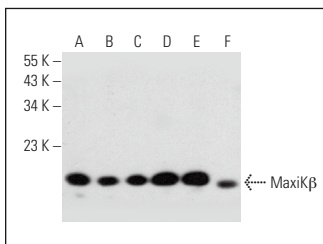
Suitable for use as control antibody for MaxiK β siRNA (h): sc-42513, MaxiK β siRNA (m): sc-42514, MaxiK β siRNA (r): sc-155999, MaxiK β shRNA Plasmid (h): sc-42513-SH, MaxiK β shRNA Plasmid (m): sc-42514-SH, MaxiK β shRNA Plasmid (r): sc-155999-SH, MaxiK β shRNA (h) Lentiviral Particles: sc-42513-V, MaxiK β shRNA (m) Lentiviral Particles: sc-42514-V and MaxiK β shRNA (r) Lentiviral Particles: sc-155999-V.

Molecular Weight of MaxiK β isoforms 1/2: 22/15 kDa.

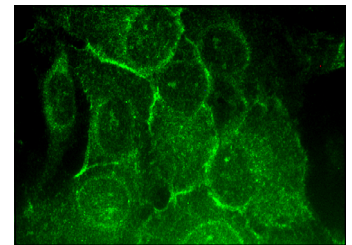
Molecular Weight of glycosylated MaxiK β : 26-37 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, A-431 whole cell lysate: sc-2201 or A-10 cell lysate: sc-3806.

DATA



MaxiK β (A-5): sc-377023. Western blot analysis of MaxiK β expression in HUV-EC-C (A), A-431 (B), BC₂H1 (C), Neuro-2A (D), H19-7/IGF-IR (E) and A-10 (F) whole cell lysates.



MaxiK β (A-5): sc-377023. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. 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.
2. Babicheva, A., et al. 2020. MicroRNA-mediated downregulation of K⁺ channels in pulmonary arterial hypertension. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 318: L10-L26.
3. Xu, T., et al. 2020. Antenatal dexamethasone exposure impairs the high-conductance Ca²⁺-activated K⁺ channels via epigenetic alteration at gene promoter in male offspring. *Arterioscler. Thromb. Vasc. Biol.* 40: e284-e295.
4. Song, R., et al. 2021. Ryanodine receptor subtypes regulate Ca²⁺ sparks/spontaneous transient outward currents and myogenic tone of uterine arteries in pregnancy. *Cardiovasc. Res.* 117: 792-804.

RESEARCH USE

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