

# MaxiK $\beta$ (N-15): sc-14749

## BACKGROUND

The KCNMB1 gene, located on chromosome 5q35.1, contains 4 exons and encodes the 191 amino-acid protein MaxiK $\beta$  subunit 1 (also designated calcium-activated potassium channel  $\beta$  subunit, BK channel  $\beta$  subunit, Slo- $\beta$  and KVCA $\beta$ ). MaxiK $\beta$  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. MaxiK $\beta$  subunit 1, one of four subunits in the MaxiK $\beta$  family, is expressed predominately in smooth muscle tissue but is also found in brain, liver and lymphatic tissues. MaxiK $\beta$  subunit 1 associates with MaxiK $\alpha$  to form a calcium-activated potassium channel (also designated MaxiK and BK channel). MaxiK $\beta$  subunit 1 increases the sensitivity of the MaxiK $\alpha$  to calcium and voltage. The MaxiK $\alpha$ / $\beta$ 1 channel is the most sensitive of all Maxi channels to calcium. MaxiK $\beta$  plays an important role in vasoregulation by controlling the sensitivity of MaxiK channels to calcium, which leads to the proper amount of arterial relaxation.

## CHROMOSOMAL LOCATION

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

## SOURCE

MaxiK $\beta$  (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MaxiK $\beta$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-14749 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MaxiK $\beta$  (N-15) is recommended for detection of MaxiK $\beta$  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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MaxiK $\beta$  (N-15) is also recommended for detection of MaxiK $\beta$  in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of MaxiK $\beta$  isoforms 1/2: 22/15 kDa.

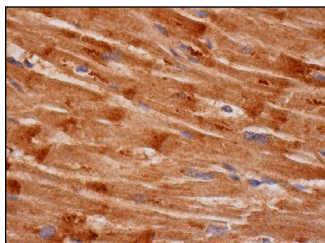
Molecular Weight of glycosylated MaxiK $\beta$ : 26-37 kDa.

Positive Controls: HISM cell lysate: sc-2229.

## STORAGE

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

## DATA



MaxiK $\beta$  (N-15): sc-14749. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- Pluznick, J.L., et al. 2005. BK- $\beta$ 1 subunit: immunolocalization in the mammalian connecting tubule and its role in the kaliuretic response to volume expansion. *Am. J. Physiol. Renal Physiol.* 288: F846-F854.
- Ohya, S., et al. 2005. Cardioprotective effects of estradiol include the activation of large-conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channels in cardiac mitochondria. *Am. J. Physiol. Heart Circ. Physiol.* 289: H1635-H1642.
- Grimm, P.R., et al. 2007. Identification and localization of BK- $\beta$  subunits in the distal nephron of the mouse kidney. *Am. J. Physiol. Renal Physiol.* 293: F350-F359.
- Yang, Y., et al. 2009. Heterogeneity in function of small artery smooth muscle BK $\alpha$ : involvement of the  $\beta$ 1-subunit. *J. Physiol.* 587: 3025-3044.
- Loot, A.E., et al. 2012. 11,12-EET stimulates the association of BK channel  $\alpha$  and  $\beta$ 1 subunits in mitochondria to induce pulmonary vasoconstriction. *PLoS ONE* 7: e46065.

## RESEARCH USE

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

## PROTOCOLS

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