SANTA CRUZ BIOTECHNOLOGY, INC.

KPI-2 (C-19): sc-79555

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

KPI-2 (kinase/phosphatase/inhibitor 2), also known as BREK, LMR2, cprk, AATYK2 or LMTK2 (lemur tyrosine kinase 2), is a 1,503 amino acid single-pass membrane protein belonging to the protein kinase superfamily and the protein tyrosine kinase family. Mainly expressed in skeletal muscle, and weakly in brain and pancreas, KPI-2 contains N-terminal transmembrane helices and a long C-terminal cytoplasmic tail with serine/threonine/tyrosine kinase activity. KPI-2 may be involved in nerve growth factor (NGF)-Trk A signaling, endosomal membrane trafficking and spermatogenesis. KPI-2 localizes to cytoplasmic membrane vesicles and to perinuclear recycling endosomes. KPI-2 is critical for the transition of endocytosed membrane vesicles from early endosomes to recycling endosomes. The gene encoding KPI-2 is a potential therapeutic target for prostate cancer.

REFERENCES

1. Wang, H., et al. 2002. A novel transmembrane Ser/Thr kinase complexes with protein phosphatase-1 and inhibitor-2. J. Biol. Chem. 277: 49605-49612.
2. Kawa, S., et al. 2004. Involvement of BREK, a serine/threonine kinase enriched in brain, in NGF signalling. Genes Cells 9: 219-232.
3. Wang, H., et al. 2006. Peptide microarray analysis of substrate specificity of the transmembrane Ser/Thr kinase KPI-2 reveals reactivity with cystic fibrosis transmembrane conductance regulator and phosphorylase. Mol. Cell. Proteomics 5: 2124-2130.
4. Kawa, S., et al. 2006. Azoospermia in mice with targeted disruption of the Brek/Lmtk2 (brain-enriched kinase/lemur tyrosine kinase 2) gene. Proc. Natl. Acad. Sci. USA 103: 19344-19349.
5. Chibalina, M.V., et al. 2007. Myosin VI and its interacting protein LMTK2 regulate tubule formation and transport to the endocytic recycling compartment. J. Cell Sci. 120: 4278-4288.

CHROMOSOMAL LOCATION

Genetic locus: LMTK2 (human) mapping to 7q21.3; Lmtk2 (mouse) mapping to 5 G2.

SOURCE

KPI-2 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of KPI-2 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-79555 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

KPI-2 (C-19) is recommended for detection of KPI-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

KPI-2 (C-19) is also recommended for detection of KPI-2 in additional species, including equine and canine.

Suitable for use as control antibody for KPI-2 siRNA (h): sc-75397, KPI-2 siRNA (m): sc-75398, KPI-2 shRNA Plasmid (h): sc-75397-SH, KPI-2 shRNA Plasmid (m): sc-75398-SH, KPI-2 shRNA (h) Lentiviral Particles: sc-75397-V and KPI-2 shRNA (m) Lentiviral Particles: sc-75398-V.

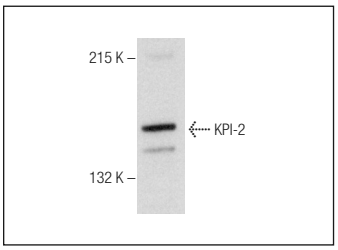
Molecular Weight of KPI-2: 250 kDa.

Postive Controls: mouse skeletal muscle extract: sc-364250 or human skeletal muscle extract: sc-363776.

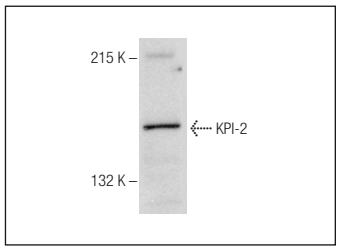
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



KPI-2 (C-19): sc-79555. Western blot analysis of KPI-2 expression in human skeletal muscle tissue extract.



KPI-2 (C-19): sc-79555. Western blot analysis of KPI-2 expression in mouse skeletal muscle tissue extract.

RESEARCH USE

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