

IP3KB (G-20): sc-11214

BACKGROUND

Inositol 1,4,5-trisphosphate (Ins(1,4,5)P₃) regulates the level of calcium within the cell by releasing calcium from intracellular stores. Ins(1,4,5)P₃ is phosphorylated by inositol 1,4,5-trisphosphate 3-kinase (IP3K) to form inositol 1,3,4,5-tetrakisphosphate (Ins(1,4,5)P₄), which is thought to regulate the influx of calcium across the plasma membrane. IP3K exists as three isoforms, IP3KA, B, and C. IP3KA, the most highly characterized isoform, is expressed in rat brain and testis. IP3KB is expressed in various rat tissues such as lung, thymus, testis, brain, and heart. IP3K activity is stimulated in the presence of calmodulin via phosphorylation by cAMP-dependent protein kinase, protein kinase C, or calcium/calmodulin dependent protein kinase II and, subsequently, mediates the inositol phosphate signaling pathways.

REFERENCES

- Johanson, R.A., Hansen, C.A. and Williamson, J.R. 1988. Purification of D-myo-inositol 1,4,5-trisphosphate 3-kinase from rat brain. *J. Biol. Chem.* 263: 7465-7471.
- Berridge, M.J. and Irvine, R.F. 1989. Inositol phosphates and cell signaling. *Nature* 341: 197-205.
- Sim, S.S., Kim, J.W. and Rhee, S.G. 1990. Regulation of D-myo-inositol 1,4,5-trisphosphate 3-kinase by cAMP-dependent protein kinase and protein kinase C. *J. Biol. Chem.* 265: 10367-10372.
- Takazawa, K., Vandekerckhove, J., Dumont, J.E. and Erneux, C. 1990. Cloning and expression in *Escherichia coli* of a rat brain cDNA encoding a Ca²⁺/calmodulin-sensitive inositol 1,4,5-trisphosphate 3-kinase. *Biochem. J.* 272: 107-112.
- Irvine, R.F. 1991. Inositol tetrakisphosphate as a second messenger: confusions, contradictions, and a potential resolution. *Bioessays* 13: 419-427.
- Vanweyenberg, V., Communi, D., D'Santos, C.S. and Erneux, C. 1995. Tissue and cell-specific expression of Ins(1,4,5)P₃ 3-kinase isoenzymes. *Biochem. J.* 306: 429-435.
- Woodring, P.J. and Garrison, J.C. 1997. Expression, purification, and regulation of two isoforms of the inositol 1,4,5-trisphosphate 3-kinase. *J. Biol. Chem.* 272: 30447-30454.

CHROMOSOMAL LOCATION

Genetic locus: *Itpkb* (mouse) mapping to 1 H4.

SOURCE

IP3KB (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of IP3KB of rat 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-11214 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IP3KB (G-20) is recommended for detection of IP3KB of mouse and rat 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).

Suitable for use as control antibody for IP3KB siRNA (m): sc-39067, IP3KB shRNA Plasmid (m): sc-39067-SH and IP3KB shRNA (m) Lentiviral Particles: sc-39067-V.

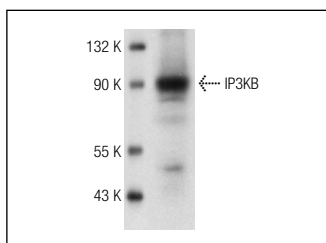
Molecular Weight of IP3KB: 92 kDa.

Positive Controls: C6 whole cell lysate.

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



IP3KB (G-20): sc-11214. Western blot analysis of IP3KB expression in C6 whole cell lysate.

SELECT PRODUCT CITATIONS

- Wen, B.G., Pletcher, M.T., Warashina, M., Choe, S.H., Ziaee, N., Wiltshire, T., Sauer, K. and Cooke, M.P. 2004. Inositol (1,4,5) trisphosphate 3 kinase B controls positive selection of T cells and modulates ERK activity. *Proc. Natl. Acad. Sci. USA* 101: 5604-5609.

STORAGE

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

RESEARCH USE

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