

IP3KC (C-14): sc-11221

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.
- Vanweyenbergh, 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 LOCATIONS

Genetic locus: ITPKC (human) mapping to 19q13.2.

SOURCE

IP3KC (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IP3KC 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-11221 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IP3KC (C-14) is recommended for detection of IP3KC of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IP3KC (C-14) is also recommended for detection of IP3KC in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for IP3KC siRNA (h): sc-39068, IP3KC shRNA Plasmid (h): sc-39068-SH and IP3KC shRNA (h) Lentiviral Particles: sc-39068-V.

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) 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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.