

IP3KA (N-17): sc-11206

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 (1–3). 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 (2,3). IP3K exists as three isoforms, IP3KA, B, and C (3,4). IP3KA, the most highly characterized isoform, is expressed in rat brain and testis (3-5). IP3KB is expressed in various rat tissues such as lung, thymus, testis, brain, and heart (3,4). 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., et al. 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., et al. 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., et al. 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., et al. 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: ITPKA (human) mapping to 15q15.1; Itpka (mouse) mapping to 2 E5.

SOURCE

IP3KA (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IP3KA 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-11206 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

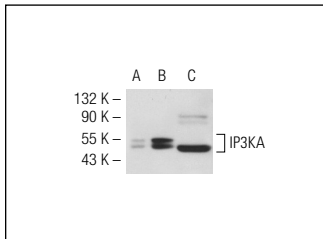
IP3KA (N-17) is recommended for detection of IP3KA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IP3KA siRNA (h): sc-39064, IP3KA siRNA (m): sc-39065, IP3KA shRNA Plasmid (h): sc-39064-SH, IP3KA shRNA Plasmid (m): sc-39065-SH, IP3KA shRNA (h) Lentiviral Particles: sc-39064-V and IP3KA shRNA (m) Lentiviral Particles: sc-39065-V.

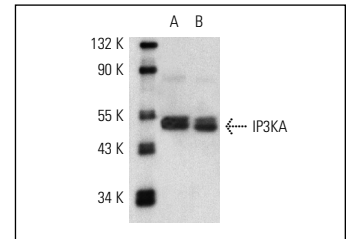
Molecular Weight of IP3KA: 50 kDa.

Positive Controls: rat cerebellum extract: sc-2398, mouse brain extract: sc-2253 or IP3KA (m): 293T Lysate: sc-127014.

DATA



IP3KA (N-17): sc-11206. Western blot analysis of IP3KA expression in non-transfected: sc-117752 (A) and mouse IP3KA transfected: sc-127014 (B) 293T whole cell lysates and mouse brain tissue extract (C).



IP3KA (N-17): sc-11206. Western blot analysis of IP3KA expression in rat cerebellum (A) and mouse brain (B) extracts.

SELECT PRODUCT CITATIONS

- Lisignoli, G., et al. 2009. Gene array profile identifies collagen type XV as a novel human osteoblast-secreted matrix protein. *J. Cell. Physiol.* 220: 401-409.

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.



Try **IP3KA (F-3): sc-271838**, our highly recommended monoclonal alternative to IP3KA (N-17).