SANTA CRUZ BIOTECHNOLOGY, INC.

IP3KB (J-15): sc-100385

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

1. 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.
2. Berridge, M.J. and Irvine, R.F. 1989. Inositol phosphates and cell signaling. Nature 341: 197-205.
3. 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.
4. Takazawa, K., et al. 1990. Cloning and expression in *Escherichia coli* of a rat brain cDNA encoding a Ca^{2+}/calmodulin-sensitive inositol 1,4,5-trisphosphate 3-kinase. Biochem. J. 272: 107-112.
5. Irvine, R.F. 1991. Inositol tetrakisphosphate as a second messenger: confusions, contradictions, and a potential resolution. Bioessays 13: 419-427.
6. Vanweyenberg, V., et al. 1995. Tissue and cell-specific expression of Ins(1,4,5)P3 3-kinase isoenzymes. Biochem. J. 306: 429-435.
7. 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 (human) mapping to 1q42.12.

SOURCE

IP3KB (J-15) is a mouse monoclonal antibody raised against amino acids 545-644 representing an internal region of IP3KB of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

IP3KB (J-15) is recommended for detection of IP3KB of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IP3KB siRNA (h): sc-39066, IP3KB shRNA Plasmid (h): sc-39066-SH and IP3KB shRNA (h) Lentiviral Particles: sc-39066-V.

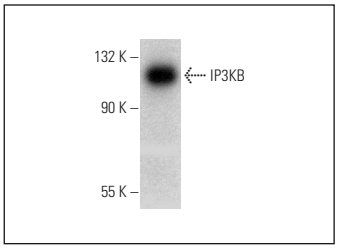
Molecular Weight of IP3KB: 92 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or SK-MEL-28 cell lysate: sc-2236.

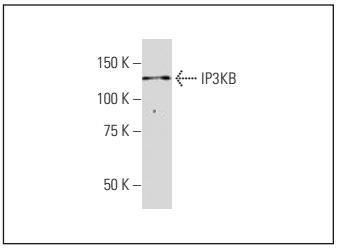
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



IP3KB (J-15): sc-100385. Western blot analysis of IP3KB expression in SK-MEL-28 whole cell lysate.



IP3KB (J-15): sc-100385. Western blot analysis of IP3KB expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wieschhaus, A.J., et al. 2012. Headpiece domain of dematin regulates calcium mobilization and signaling in platelets. J. Biol. Chem. 287: 41218-41231.

PROTOCOLS

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