

IP3R-III (K-19): sc-26388

BACKGROUND

Inositol 1,4,5-triphosphate (IP3) functions as a second messenger for a myriad of extracellular stimuli including hormones, growth factors and neurotransmitters. Receptor tyrosine kinases indirectly increase the intracellular levels of IP3 through the activation of phospholipases such as phospholipase C (PLC), which convert phosphatidylinositol-4,5 biphosphate into IP3 and diacylglycerol (DAG). The inositol 1,4,5-triphosphate receptor, IP3R, acts as an inositol triphosphate (IP3)-gated calcium release channel in a variety of cell types. Three IP3 receptor subtypes have been described and are designated IP3R-I, IP3R-II and IP3R-III. IP3R-I is the predominant IP3R subtype expressed in neuronal tissues and the central nervous system, but is also expressed at high levels in the liver.

REFERENCES

1. Blondel, O., et al. 1993. Sequence and functional characterization of a third inositol trisphosphate receptor subtype, IP3R-3, expressed in pancreatic islets, kidney, gastrointestinal tract, and other tissues. *J. Biol. Chem.* 268: 11356-11363.
2. Cameron, A.M., et al. 1995. Calcineurin associated with the inositol 1,4,5-trisphosphate receptor-FKBP12 complex modulates Ca²⁺ flux. *Cell* 83: 463-472.
3. Raghu, P., et al. 1995. The inositol 1,4,5-triphosphate receptor expression in *Drosophila* suggests a role for IP3 signalling in muscle development and adult hemosensory functions. *Dev. Biol.* 171: 564-577.
4. Zhang, S.X., et al. 1995. *In situ* hybridization of mRNA expression for IP3 receptor and IP3-3-kinase in rat brain after transient focal cerebral ischemia. *Mol. Brain Res.* 32: 252-260.
5. Joseph, S.K., et al. 1995. Heteroligomers of type-I and type-III inositol trisphosphate receptors in WB rat liver epithelial cells. *J. Biol. Chem.* 270: 23310-23316.

CHROMOSOMAL LOCATION

Genetic locus: ITPR3 (human) mapping to 6p21.31; Itpr3 (mouse) mapping to 17 A3.3.

SOURCE

IP3R-III (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IP3R-III 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-26388 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

IP3R-III (K-19) is recommended for detection of IP3R-III of mouse, rat and 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).

IP3R-III (S-20) is also recommended for detection of IP3R-III in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for IP3R-III siRNA (h): sc-42477, IP3R-III siRNA (m): sc-42478, IP3R-III shRNA Plasmid (h): sc-42477-SH, IP3R-III shRNA Plasmid (m): sc-42478-SH, IP3R-III shRNA (h) Lentiviral Particles: sc-42477-V and IP3R-III shRNA (m) Lentiviral Particles: sc-42478-V.

Molecular Weight of IP3R-II: 250 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208.

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.

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.