

IP3R-I (E-20): sc-26382

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 bisphosphate 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

- 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.
- 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.
- 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.
- 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.
- 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: ITPR1 (human) mapping to 3p26.1; Itpr1 (mouse) mapping to 6 E1.

SOURCE

IP3R-I (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IP3R-I 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-26382 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-I (E-20) is recommended for detection of IP3R-I 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).

IP3R-I (E-20) is also recommended for detection of IP3R-I in additional species, including equine, canine and porcine.

Suitable for use as control antibody for IP3R-I siRNA (h): sc-42475, IP3R-I siRNA (m): sc-42476, IP3R-I shRNA Plasmid (h): sc-42475-SH, IP3R-I shRNA Plasmid (m): sc-42476-SH, IP3R-I shRNA (h) Lentiviral Particles: sc-42475-V and IP3R-I shRNA (m) Lentiviral Particles: sc-42476-V.

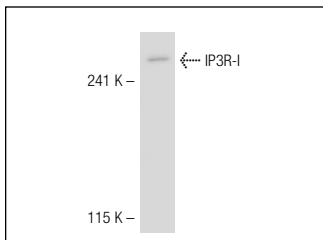
Molecular Weight of IP3R-I monomer: 313 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208 or mouse brain extract: sc-2253.

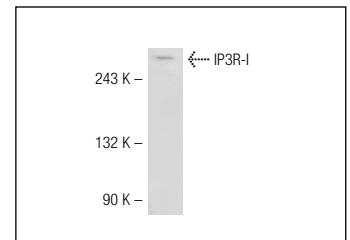
RECOMMENDED SECONDARY REAGENTS

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



IP3R-I (E-20): sc-26382. Western blot analysis of IP3R-I expression in HuT 78 whole cell lysate.



IP3R-I (E-20): sc-26382. Western blot analysis of IP3R-I expression in HuT 78 whole cell lysate.

RESEARCH USE

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

MONOS
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Try **IP3R-I (E-8): sc-271197**, our highly recommended monoclonal alternative to IP3R-I (E-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **IP3R-I (E-8): sc-271197**.