

IP3R-II (A-5): sc-398434

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.

CHROMOSOMAL LOCATION

Genetic locus: ITPR2 (human) mapping to 12p12.1; Itpr2 (mouse) mapping to 6 G3.

SOURCE

IP3R-II (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2666-2695 at the C-terminus of IP3R-II of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IP3R-II (A-5) is available conjugated to agarose (sc-398434 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398434 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398434 PE), fluorescein (sc-398434 FITC), Alexa Fluor® 488 (sc-398434 AF488), Alexa Fluor® 546 (sc-398434 AF546), Alexa Fluor® 594 (sc-398434 AF594) or Alexa Fluor® 647 (sc-398434 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398434 AF680) or Alexa Fluor® 790 (sc-398434 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398434 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IP3R-II (A-5) is recommended for detection of IP3R-II of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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-II (A-5) is also recommended for detection of IP3R-II in additional species, including equine, canine, bovine, porcine and avian.

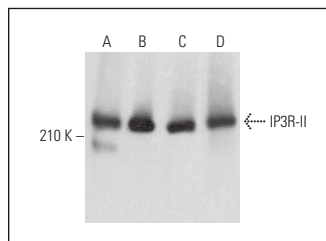
Suitable for use as control antibody for IP3R-II siRNA (h): sc-35698, IP3R-II siRNA (m): sc-35699, IP3R-II shRNA Plasmid (h): sc-35698-SH, IP3R-II shRNA Plasmid (m): sc-35699-SH, IP3R-II shRNA (h) Lentiviral Particles: sc-35698-V and IP3R-II shRNA (m) Lentiviral Particles: sc-35699-V.

Molecular Weight of IP3R-II: 260 kDa.

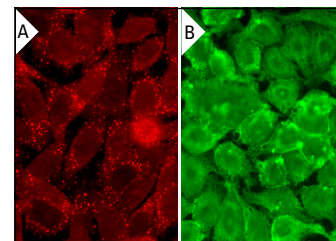
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



IP3R-II (A-5): sc-398434. Western blot analysis of IP3R-II expression in Hep G2 (A), Jurkat (B) and NIH/3T3 (C) whole cell lysates and rat thymus tissue extract (D).



IP3R-II (A-5) Alexa Fluor® 594: sc-398434 AF594. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). IP3R-II (A-5): sc-398434. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and membrane localization (B).

SELECT PRODUCT CITATIONS

- Wu, S., et al. 2019. Hyperglycemia-driven inhibition of AMP-activated protein kinase $\alpha 2$ induces diabetic cardiomyopathy by promoting mitochondria-associated endoplasmic reticulum membranes *in vivo*. *Circulation* 139: 1913-1936.
- Nozawa, T., et al. 2020. TBC1D9 regulates TBK1 activation through Ca^{2+} signaling in selective autophagy. *Nat. Commun.* 11: 770.
- Zhang, D., et al. 2020. Knockdown of Tcigr1 inhibits large-osteoclast generation by down-regulating NFATc1 and IP3R2 expression. *PLoS ONE* 15: e0237354.
- Bae, H., et al. 2021. Osthole interacts with an ER-mitochondria axis and facilitates tumor suppression in ovarian cancer. *J. Cell. Physiol.* 236: 1025-1042.
- Carpio, M.A., et al. 2021. BOK controls apoptosis by Ca^{2+} transfer through ER-mitochondrial contact sites. *Cell Rep.* 34: 108827.
- Zhong, S., et al. 2021. Acetaldehyde dehydrogenase 2 regulates HMG-CoA reductase stability and cholesterol synthesis in the liver. *Redox Biol.* 41: 101919.
- Kim, H.K., et al. 2021. TMIM6 (transmembrane BAX inhibitor motif containing 6) enhances autophagy through regulation of lysosomal calcium. *Autophagy* 17: 761-778.
- Lou, L., et al. 2021. Yiqi Huoxue preserves heart function by upregulating the $\alpha 1$ receptor in rats with myocardial infarction. *Exp. Ther. Med.* 22: 1308.

RESEARCH USE

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

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