

IP3R-I (E-8): sc-271197



The Power to Question

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

SOURCE

IP3R-I (E-8) is a mouse monoclonal antibody raised against amino acids 1894-1973 mapping within a cytoplasmic domain of IP3R-I of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IP3R-I (E-8) is available conjugated to agarose (sc-271197 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271197 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271197 PE), fluorescein (sc-271197 FITC), Alexa Fluor® 488 (sc-271197 AF488), Alexa Fluor® 546 (sc-271197 AF546), Alexa Fluor® 594 (sc-271197 AF594) or Alexa Fluor® 647 (sc-271197 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271197 AF680) or Alexa Fluor® 790 (sc-271197 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IP3R-I (E-8) is recommended for detection of IP3R-I 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

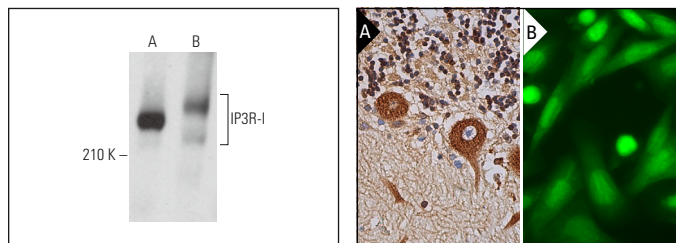
Molecular Weight of IP3R-I monomer: 313 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

STORAGE

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

DATA



IP3R-I (E-8): sc-271197. Western blot analysis of IP3R-I expression in HeLa whole cell lysate (A) and mouse brain tissue extract (B).

IP3R-I (E-8): sc-271197. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of purkinje cells, cells in granular layer and cells in molecular layer (A). IP3R-I (E-8) Alexa Fluor® 488: sc-271197 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic, or nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Feng, X., et al. 2014. Receptor-interacting protein 140 attenuates endoplasmic reticulum stress in neurons and protects against cell death. *Nat. Commun.* 5: 4487.
- Xiong, S., et al. 2017. Activation of transient receptor potential melastatin subtype 8 attenuates cold-induced hypertension through ameliorating vascular mitochondrial dysfunction. *J. Am. Heart Assoc.* 6: e005495.
- Marciel, M.P., et al. 2018. Selenoprotein K deficiency inhibits melanoma by reducing calcium flux required for tumor growth and metastasis. *Oncotarget* 9: 13407-13422.
- Lee, J., et al. 2019. HAP1 loss confers L-asparaginase resistance in ALL by downregulating the calpain-1-Bid-caspase-3/12 pathway. *Blood* 133: 2222-2232.
- Zhang, D., et al. 2020. Knockdown of Tcigr1 inhibits large-osteoclast generation by down-regulating NFATc1 and IP3R2 expression. *PLoS ONE* 15: e0237354.
- Dridi, H., et al. 2022. IP3 receptor orchestrates maladaptive vascular responses in heart failure. *J. Clin. Invest.* 132: e152859.
- Wischhof, L., et al. 2022. Unbiased proteomic profiling reveals the IP3R modulator AHCYL1/IRBIT as a novel interactor of microtubule-associated protein Tau. *J. Biol. Chem.* 298: 101774.
- Paschou, M., et al. 2022. Neuronal microRNAs safeguard ER Ca²⁺ homeostasis and attenuate the unfolded protein response upon stress. *Cell. Mol. Life Sci.* 79: 373.

RESEARCH USE

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