SANTA CRUZ BIOTECHNOLOGY, INC.

IP3R-I/II/III (H-300): sc-28613

SANTA CRUZ BIOTECHNOLOGY

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.

REFERENCES

1. Cameron, A.M., et al. 1995. Calcineurin associated with the inositol 1,4,5-trisphosphate receptor-FKBP12 complex modulates Ca^{2+} flux. Cell 83: 463-472.
2. 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.
3. 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.
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. Matsumoto, M., et al. 1996. Ataxia and epileptic seizures in mice lacking type 1 inositol 1,4,5-trisphosphate receptor. Nature 379: 168-171.

SOURCE

IP3R-I/II/III (H-300) is a rabbit polyclonal antibody raised against amino acids 2402-2701 mapping at the C-terminus of IP3R-II 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.

APPLICATIONS

IP3R-I/II/III (H-300) is recommended for detection of IP3R-I, II and III 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/II/III (H-300) is also recommended for detection of IP3R-I, II and III in additional species, including equine, canine, bovine and avian.

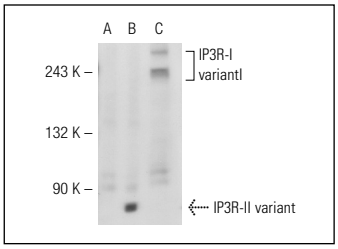
Molecular weight of IP3R-I/II/III: 313/260/250 kDa.

Positive Controls: IP3R-II (m): 293T Lysate: sc-121092 or A-10 cell lysate: sc-3806.

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/II/III (H-300): sc-28613. Western blot analysis of IP3R-II expression in non-transfected 293T: sc-117752 (**A**), mouse IP3R-II transfected 293T: sc-121092 (**B**) and A-10 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fernandez, S.F., et al. 2005. Mechanisms of angiotensin II-mediated decreases in intraneuronal Ca^{2+} in calcium-loaded stellate ganglion neurons. Hypertension 45: 276-282.
2. Boulware, M.J. and Marchant, J.S. 2008. Nuclear pore disassembly from endoplasmic reticulum membranes promotes Ca^{2+} signalling competency. J. Physiol. 586: 2873-2888.
3. Schrödl, K., et al. 2009. Altered Ca^{2+}-homeostasis of cisplatin-treated and low level resistant non-small-cell and small-cell lung cancer cells. Cell. Oncol. 31: 301-315.
4. Wang, J., et al. 2009. Fenvalerate-induced Ca^{2+} transients via both intracellular and extracellular way in mouse GC-2SPD (TS) cells. Toxicology 259: 122-132.
5. Barro-Soria, R., et al. 2010. ER-localized bestrophin 1 activates Ca^{2+}-dependent ion channels TMEM16A and SK4 possibly by acting as a counterion channel. Pflugers Arch. 459: 485-497.
6. Castellano, J., et al. 2011. Hypoxia exacerbates Ca^{2+}-handling disturbances induced by very low density lipoproteins (VLDL) in neonatal rat cardiomyocytes. J. Mol. Cell. Cardiol. 50: 894-902.
7. Dionisio, N., et al. 2011. Functional role of the calmodulin- and inositol 1,4,5-trisphosphate receptor-binding (CIRB) site of TRPC6 in human platelet activation. Cell. Signal. 23: 1850-1856.

RESEARCH USE

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