SANTA CRUZ BIOTECHNOLOGY, INC.

P2X7 (D-1): sc-514962

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The P2X receptor family is comprised of ligand-gated ion channels that allow for the increased permeability of calcium into the cell in response to extracellular ATP. The seven P2X receptors, P2X1-P2X7, form either homomeric or heteromeric channels or both. They are characterized by intracellular amino- and carboxy-termini. P2X receptors are expressed in a wide variety of tissues, including neurons, prostate, bladder, pancreas, colon, testis and ovary. The major function of the P2X receptors is to mediate synaptic transmissions between neurons and to other tissues via the binding of extracellular ATP, which acts as a neurotransmitter. The P2X receptors may be involved in the onset of necrosis or apoptosis after prolonged exposure to high concentrations of extracellular ATP.

REFERENCES

1. Longhurst, P.A., et al. 1996. The human P2X1 receptor: molecular cloning, tissue distribution, and localization to chromosome 17. Biochim. Biophys. Acta 1308: 185-188.
2. Di Virgilio, F., et al. 1998. Cytolytic P2X purinoceptors. Cell Death Differ. 5: 191-199.

CHROMOSOMAL LOCATION

Genetic locus: P2RX7 (human) mapping to 12q24.31; P2rx7 (mouse) mapping to 5 F.

SOURCE

P2X7 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 81-106 within an internal region of P2X7 of human origin.

PRODUCT

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

P2X7 (D-1) is available conjugated to agarose (sc-514962 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514962 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514962 PE), fluorescein (sc-514962 FITC), Alexa Fluor® 488 (sc-514962 AF488), Alexa Fluor® 546 (sc-514962 AF546), Alexa Fluor® 594 (sc-514962 AF594) or Alexa Fluor® 647 (sc-514962 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514962 AF680) or Alexa Fluor® 790 (sc-514962 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514962 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

P2X7 (D-1) is recommended for detection of P2X7 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).

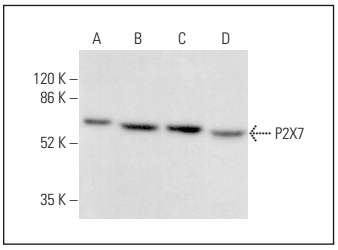
Suitable for use as control antibody for P2X7 siRNA (h): sc-42575, P2X7 siRNA (m): sc-42576, P2X7 siRNA (r): sc-108056, P2X7 shRNA Plasmid (h): sc-42575-SH, P2X7 shRNA Plasmid (m): sc-42576-SH, P2X7 shRNA Plasmid (r): sc-108056-SH, P2X7 shRNA (h) Lentiviral Particles: sc-42575-V, P2X7 shRNA (m) Lentiviral Particles: sc-42576-V and P2X7 shRNA (r) Lentiviral Particles: sc-108056-V.

Molecular Weight of native P2X7: 65 kDa.

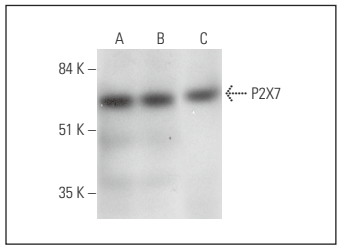
Molecular Weight of glycosylated P2X7: 85 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or SK-N-MC cell lysate: sc-2237.

DATA



P2X7 (D-1): sc-514962. Western blot analysis of P2X7 expression in Jurkat (**A**), ALL-SIL (**B**), M1 (**C**) and BW5147 (**D**) whole cell lysates.



P2X7 (D-1): sc-514962. Western blot analysis of P2X7 expression in Jurkat (**A**), A-431 (**B**) and SK-N-MC (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Maruyama, K., et al. 2018. Cyclic stretch negatively regulates IL-1β secretion through the inhibition of NLRP3 inflammasome activation by attenuating the AMP kinase pathway. Front. Physiol. 9: 802.
2. Prabhu, D., et al. 2019. Loss of Insulin-like growth factor-1 signaling in astrocytes disrupts glutamate handling. J. Neurochem. 151: 689-702.
3. Serralha, R.S., et al. 2020. Esculin reduces P2X7 and reverses mitochondrial dysfunction in the renal cortex of diabetic rats. Life Sci. 254: 117787.
4. Wu, Q., et al. 2021. Electroacupuncture may alleviate neuropathic pain via suppressing P2X7R expression. Mol. Pain 17: 1744806921997654.
5. Zhang, J., et al. 2021. Herb-partitioned moxibustion alleviates colonic inflammation in Crohn's disease rats by inhibiting hyperactivation of the NLRP3 inflammasome via regulation of the P2X7R-Pannexin-1 signaling pathway. PLoS ONE 16: e0252334.

RESEARCH USE

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