

Mouse Monoclonal Antibody to P2RX7
Purified Mouse Monoclonal Antibody
Catalog # AO2457a**Specification**

Mouse Monoclonal Antibody to P2RX7 - Product Information

Application	WB, IHC, FC, E
Primary Accession	Q99572
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2b
Calculated MW	68.6kDa KDa

Description

The product of this gene belongs to the family of purinoceptors for ATP. This receptor functions as a ligand-gated ion channel and is responsible for ATP-dependent lysis of macrophages through the formation of membrane pores permeable to large molecules. Activation of this nuclear receptor by ATP in the cytoplasm may be a mechanism by which cellular activity can be coupled to changes in gene expression. Multiple alternatively spliced variants have been identified, most of which fit nonsense-mediated decay (NMD) criteria.;

Immunogen

Purified recombinant fragment of human P2RX7 (AA: 226-452) expressed in E. Coli.

Formulation

Purified antibody in PBS with 0.05% sodium azide

Application Note

ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; FCM: 1/200 - 1/400

Mouse Monoclonal Antibody to P2RX7 - Additional Information

Gene ID 5027

Other Names

P2X7

Dilution

WB~~1:1000
IHC~~1:100~500
FC~~1:10~50
E~~N/A

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Mouse Monoclonal Antibody to P2RX7 is for research use only and not for use in diagnostic or

therapeutic procedures.

Mouse Monoclonal Antibody to P2RX7 - Protein Information

Name P2RX7

Function

ATP-gated nonselective transmembrane cation channel that requires high millimolar concentrations of ATP for activation (PubMed:17483156, PubMed:25281740, PubMed:9038151). Upon ATP binding, it rapidly opens to allow the influx of small cations Na(+) and Ca(2+), and the K(+) efflux (PubMed:17483156, PubMed:20453110, PubMed:28235784, PubMed:39262850). Also has the ability to form a large pore in the cell membrane, allowing the passage of large cationic molecules (PubMed:17483156). In microglia, may mediate NADPH transport across the plasma membrane (PubMed:39142135). In immune cells, P2RX7 acts as a molecular sensor in pathological inflammatory states by detecting and responding to high local concentrations of extracellular ATP. In microglial cells, P2RX7 activation leads to the release of pro- inflammatory cytokines, such as IL-1beta and IL-18, through the activation of the NLRP3 inflammasome and caspase-1 (PubMed:26877061). Cooperates with KCNK6 to activate NLRP3 inflammasome (By similarity). Activates death pathways leading to apoptosis and autophagy (PubMed:21821797, PubMed:23303206, PubMed:28326637). Activates death pathways leading to pyroptosis (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q64663}

Tissue Location

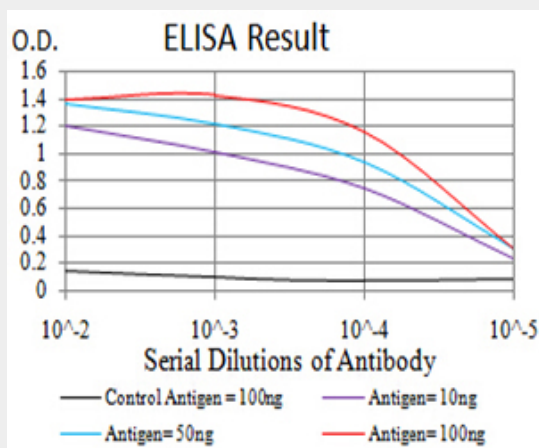
Widely expressed with highest levels in brain and immune tissues.

Mouse Monoclonal Antibody to P2RX7 - Protocols

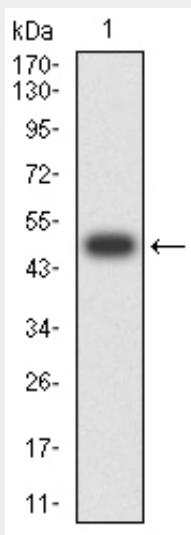
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

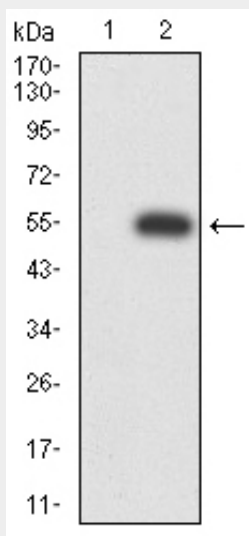
Mouse Monoclonal Antibody to P2RX7 - Images



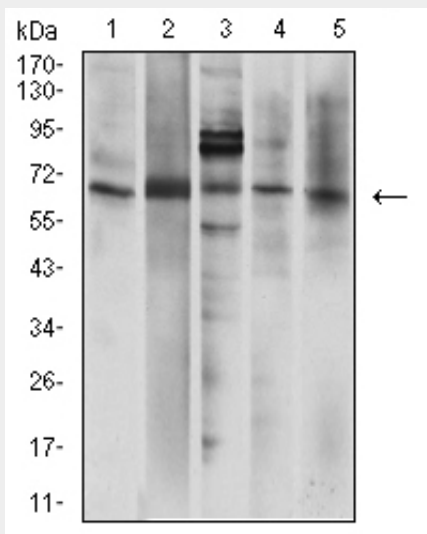
Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)



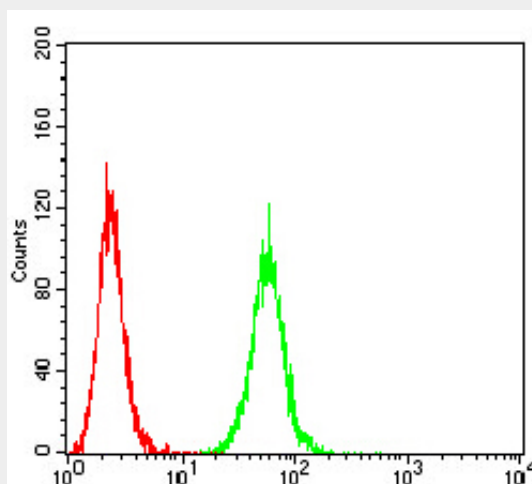
Western blot analysis using P2RX7 mAb against human P2RX7 (AA: 226-452) recombinant protein. (Expected MW is 48.9 kDa)



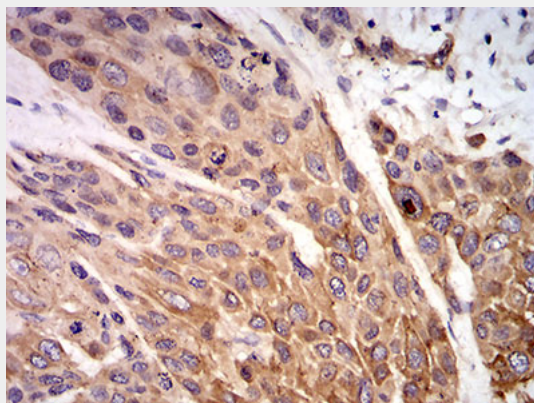
Western blot analysis using P2RX7 mAb against HEK293 (1) and P2RX7 (AA: 226-452)-hIgGFc transfected HEK293 (2) cell lysate.



Western blot analysis using P2RX7 mouse mAb against A431 (1), U251 (2), Hela (3), U937 (4), and HepG2 (5) cell lysate.



Flow cytometric analysis of Hela cells using P2RX7 mouse mAb (green) and negative control (red).



Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using P2RX7 mouse mAb with DAB staining.

Mouse Monoclonal Antibody to P2RX7 - References

1.Cancer Sci. 2015 Sep;106(9):1224-31. ; 2.J Hypertens. 2013 Dec;31(12):2362-9. ;