10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Goat Anti-P2RX7 / P2X7 receptor Antibody

Peptide-affinity purified goat antibody
Catalog # AF1770a

Specification

Goat Anti-P2RX7 / P2X7 receptor Antibody - Product Information

Application	**WB, IHC, IF, Pep-ELISA**
Primary Accession	Q99572
Other Accession	NP_002553, 5027, 18439 (mouse), 29665 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**68585**

Goat Anti-P2RX7 / P2X7 receptor Antibody - Additional Information

Gene ID 5027

Other Names
P2X purinoceptor 7, P2X7, ATP receptor, P2Z receptor, Purinergic receptor, P2RX7

Dilution
WB~~1:1000
IHC~~1:100~500
IF~~1:50~200
Pep-ELISA~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

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
Goat Anti-P2RX7 / P2X7 receptor Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-P2RX7 / P2X7 receptor Antibody - 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 extracellar 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.

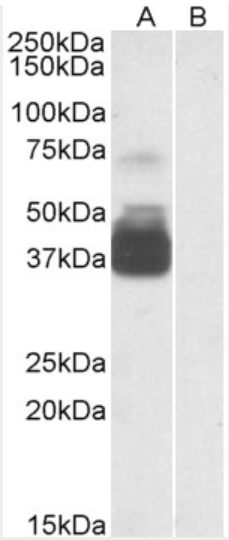
Goat Anti-P2RX7 / P2X7 receptor Antibody - Protocols

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

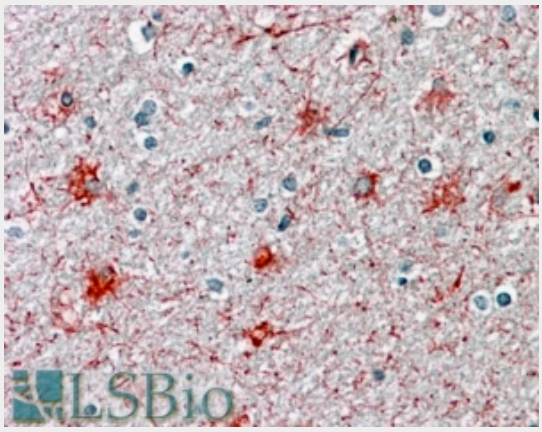
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-P2RX7 / P2X7 receptor Antibody - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



AF1770a staining (0.3µg/ml) of Human Brain (Frontal Cortex) lysate (35µg protein in RIPA buffer) with (B) and without (A) blocking with the immunising peptide. Detected by chemiluminescence.



AF1770a (3.75µg/ml) staining of paraffin embedded Human Cortex. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-P2RX7 / P2X7 receptor Antibody - Background

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.

Goat Anti-P2RX7 / P2X7 receptor Antibody - References

Association of P2X7 receptor +1513 (A-->C) polymorphism with tuberculosis in a Punjabi population. Sharma S, et al. Int J Tuberc Lung Dis, 2010 Sep. PMID 20819262.
Polymorphism in the p2x7 gene increases susceptibility to extrapulmonary tuberculosis in Turkish children. Tekin D, et al. Pediatr Infect Dis J, 2010 Aug. PMID 20661107.
Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Evidence for associations between the purinergic receptor P2X(7) (P2RX7) and toxoplasmosis. Jamieson SE, et al. Genes Immun, 2010 Jul. PMID 20535134.

Temporal interleukin-1beta secretion from primary human peripheral blood monocytes by P2X7-independent and P2X7-dependent mechanisms. Ward JR, et al. J Biol Chem, 2010 Jul 23. PMID 20495003.