

Recombinant Mouse P2RX7 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52007

Size: 10ug, 100ug

Protein Name: P2X purinoceptor 7 (P2X7) (ATP receptor) (P2Z receptor) (Purinergic receptor)

Synonym: P2rx7, P2x7

UniProt ID: Q9Z1M0

UniProt Link: www.uniprot.org/uniprotkb/Q9Z1M0/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 595 AA

Molecular Weight: 68 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPACCSWNDVLQYETNKVTRIQSTNYGTVKWWLHMIVFSYISFALVSDKLYQRKEPVISSVHTKVKGI
AEVTENVTEGGVTKLGHSIFDTADYTFPLQGNSSFFVMTNYVKSEGQVQTLCPYPRRGAQCSSDRR
CKKGWMDPQSKGIQTGRCVPYDKTRKTCEVSAWCPTSEEEKEAPRPALLRSAENFTVLIKNNIHFPG
HNYTTRNLPMTMNGSCTFHKTWDPQCSIFRLGDIFQEAGENFTEVAVQGGIMGIEIYWDCNLDSWSH
HCRPRYSFRRLDDKNTDESFPVPGYNFRYAKYYKENNVEKRTLKAFGIRFDILVFGTGGKFDIIQLVVY
IGSTLSYFGLATVCIDLLINTYSSAFCSRSGVYPYCKCCEPCTVNEYYYRKKCESIMEPKPTLKYSFVD
EPHIRMVDQQLLGKSLQVVKGQEVPRPQMDFSDLSRLSLSLHDSPLTPGQSEEIQLLHEEVAPKSG
DPSWCQCNGNCLPSRLPEQRRALEELCCRRKPGRCITTSKLFHKLVLSDTLQLLLLYQDPLLVLGE
EATNSRLRHRAYRCYATWRFSGQDMADFAILPSCCRWRIRKEFPKTEGQYSGFKYPY

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant P2X purinoceptor 7 (P2X7) (ATP receptor) (P2Z receptor) (Purinergic receptor) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: ATP-gated nonselective transmembrane cation channel. Requires high millimolar-range concentrations of ATP to become activated (PubMed:9849870). ATP binding triggers the rapid opening of the channel and allows Na(+) and Ca(2+) influx and K(+) efflux (By similarity). Has also the ability to form a large pore in the cell membrane, allowing the passage of large cationic molecules (PubMed:25281740). In microglia, may mediate NADPH transport across the plasma membrane (By similarity). 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 (PubMed:29958799). Activates death pathways leading to apoptosis and autophagy (By similarity). Activates death pathways leading to pyroptosis (PubMed:26572062). Involved in the homeostatic wound healing response to tissue injury, a multistep cascade that guides neutrophil migration to necrotic sites while avoiding collateral damage of healthy tissues. Senses ATP released from necrotic cells triggering activation of NLRP3 inflammasome and neutrophil adhesion to the vascular endothelium close to the injury site.

Subcellular Localization: Cell membrane ; Multi-pass membrane protein .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.