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phospho-MLKL (Ser345) Recombinant Rabbit mAb

Catalog # AP100124

Product Information

Application	WB
Primary Accession	Q9D2Y4
Other Accession	Q9D2Y4
Reactivity	Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	54317
Physical State	Liquid
Immunogen	A synthesized peptide derived from mouse Mlkl around the phosphorylation site of S345
Epitope Specificity	QN-pS-IS
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. Contains 1 protein kinase domain.
SUBUNIT	Homotrimer; forms homotrimers on necroptosis induction. Interacts with RIPK3; the interaction is direct. Upon TNF-induced necrosis, forms in complex with PGAM5, RIPK1 and RIPK3. Within this complex, may play a role in the proper targeting of RIPK1/RIPK3 to its downstream effector PGAM5. Subcellular Location : Cytoplasm. Cell membrane. Note=Localizes to the cytoplasm and translocates to the plasma membrane on necroptosis induction. Post-translational modifications : Phosphorylation by RIPK3 induces a conformational switch that is required for necroptosis. It also induces homotrimerization and localization to the plasma membrane.
Post-translational modifications	Phosphorylation by RIPK3 induces a conformational switch that is required for necroptosis. It also induces homotrimerization and localization to the plasma membrane.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene belongs to the protein kinase superfamily. The encoded protein contains a protein kinase-like domain; however, is thought to be inactive because it lacks several residues required for activity. This protein plays a critical role in tumor necrosis factor (TNF)-induced necroptosis, a programmed cell death process, via interaction with receptor-interacting protein 3 (RIP3), which is a key signaling molecule in necroptosis pathway. Inhibitor studies and knockdown of this gene inhibited TNF-induced necrosis. High levels of this protein and RIP3 are associated with inflammatory bowel disease in children. Alternatively spliced transcript variants have been described for this gene. [provided by RefSeq, Sep 2015].

Additional Information

Gene ID	74568

Other Names	hMLKL; 9130019I15Rik; MLKL_HUMAN; MLKL; MLKL_MOUSE; mixed lineage kinase domain like pseudokinase; mixed lineage kinase domain-like; MLKL (phospho-S345); p-MLKL; phospho-MLKL; MLKL (phospho-Ser345)
Dilution	WB=1:500-2000,ICC/IF=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Mlkl {ECO:0000303|PubMed:23835476, ECO:0000312|MGI:MGI:1921818}
Function	Pseudokinase that plays a key role in TNF-induced necroptosis, a programmed cell death process (PubMed:23835476, PubMed:24012422, PubMed:24019532, PubMed:27321907, PubMed:32200799, PubMed:32296175). Does not have protein kinase activity (PubMed:24012422). Activated following phosphorylation by RIPK3, leading to homotrimerization, localization to the plasma membrane and execution of programmed necrosis characterized by calcium influx and plasma membrane damage (PubMed:23835476, PubMed:24012422, PubMed:24019532, PubMed:27321907). In addition to TNF-induced necroptosis, necroptosis can also take place in the nucleus in response to orthomyxoviruses infection: following ZBP1 activation, which senses double-stranded Z-RNA structures, nuclear RIPK3 catalyzes phosphorylation and activation of MLKL, promoting disruption of the nuclear envelope and leakage of cellular DNA into the cytosol (PubMed:32200799, PubMed:32296175). Binds to highly phosphorylated inositol phosphates such as inositolhexakisphosphate (InsP6) which is essential for its necroptotic function (By similarity).
Cellular Location	Cytoplasm. Cell membrane. Nucleus. Note=Localizes to the cytoplasm and translocates to the plasma membrane on necroptosis induction (By similarity). Localizes to the nucleus in response to orthomyxoviruses infection (PubMed:32200799). {ECO:0000250|UniProtKB:Q8NB16, ECO:0000269|PubMed:32200799}
Tissue Location	Highly expressed in thymus, colon, intestine, liver, spleen and lung. Expressed at much lower level in skeletal muscle, heart and kidney. Not detected in brain

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