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RIPK3 / RIP3 Antibody (aa480-530)

Rabbit Polyclonal Antibody
Catalog # ALS11903

Specification

RIPK3 / RIP3 Antibody (aa480-530) - Product Information

Application	**WB, IHC-P**
Primary Accession	Q9Y572
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**57kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A**

RIPK3 / RIP3 Antibody (aa480-530) - Additional Information

Gene ID 11035

Other Names
Receptor-interacting serine/threonine-protein kinase 3, 2.7.11.1, RIP-like protein kinase 3, Receptor-interacting protein 3, RIP-3, RIPK3, RIP3

Target/Specificity
A portion of amino acids 480-518 of human RIP3

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions
RIPK3 / RIP3 Antibody (aa480-530) is for research use only and not for use in diagnostic or therapeutic procedures.

RIPK3 / RIP3 Antibody (aa480-530) - Protein Information

Name RIPK3 (HGNC:10021)

Function
Serine/threonine-protein kinase that activates necroptosis and apoptosis, two parallel forms of cell death (PubMed:19524512, PubMed:19524513, PubMed:22265413, PubMed:22265414, PubMed:22421439, PubMed:29883609, PubMed:32657447). Necroptosis, a programmed cell death process in response to death-inducing TNF-alpha family members, is triggered by RIPK3 following activation by ZBP1

(PubMed:19524512, PubMed:19524513, PubMed:22265413, PubMed:22265414, PubMed:22421439, PubMed:29883609, PubMed:32298652). Activated RIPK3 forms a necrosis- inducing complex and mediates phosphorylation of MLKL, promoting MLKL localization to the plasma membrane and execution of programmed necrosis characterized by calcium influx and plasma membrane damage (PubMed:19524512, PubMed:19524513, PubMed:22265413, PubMed:22265414, PubMed:22421439, PubMed:25316792, PubMed:29883609). 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 (By similarity). Also regulates apoptosis: apoptosis depends on RIPK1, FADD and CASP8, and is independent of MLKL and RIPK3 kinase activity (By similarity). Phosphorylates RIPK1: RIPK1 and RIPK3 undergo reciprocal auto- and trans-phosphorylation (PubMed:19524513). In some cell types, also able to restrict viral replication by promoting cell death- independent responses (By similarity). In response to Zika virus infection in neurons, promotes a cell death-independent pathway that restricts viral replication: together with ZBP1, promotes a death- independent transcriptional program that modifies the cellular metabolism via up-regulation expression of the enzyme ACOD1/IRG1 and production of the metabolite itaconate (By similarity). Itaconate inhibits the activity of succinate dehydrogenase, generating a metabolic state in neurons that suppresses replication of viral genomes (By similarity). RIPK3 binds to and enhances the activity of three metabolic enzymes: GLUL, GLUD1, and PYGL (PubMed:19498109). These metabolic enzymes may eventually stimulate the tricarboxylic acid cycle and oxidative phosphorylation, which could result in enhanced ROS production (PubMed:19498109).

Cellular Location
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:Q9QZL0}. Note=Mainly cytoplasmic Present in the nucleus in response to influenza A virus (IAV) infection. {ECO:0000250|UniProtKB:Q9QZL0}

Tissue Location
Highly expressed in the pancreas. Detected at lower levels in heart, placenta, lung and kidney

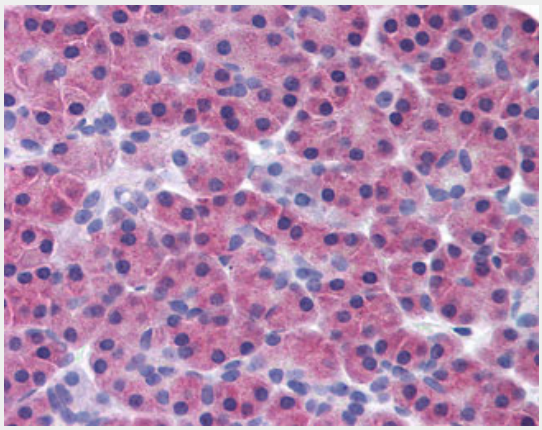
RIPK3 / RIP3 Antibody (aa480-530) - Protocols

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

RIPK3 / RIP3 Antibody (aa480-530) - Images



Anti-RIPK3 / RIP3 antibody IHC of human pancreas.

RIPK3 / RIP3 Antibody (aa480-530) - Background

Essential for necroptosis, a programmed cell death process in response to death-inducing TNF-alpha family members. Upon induction of necrosis, RIPK3 interacts with, and phosphorylates RIPK1 and MLKL to form a necrosis-inducing complex. RIPK3 binds to and enhances the activity of three metabolic enzymes: GLUL, GLUD1, and PYGL. These metabolic enzymes may eventually stimulate the tricarboxylic acid cycle and oxidative phosphorylation, which could result in enhanced ROS production.

RIPK3 / RIP3 Antibody (aa480-530) - References

Yu P.W.,et al.Curr. Biol. 9:539-542(1999).
Sun X.,et al.J. Biol. Chem. 274:16871-16875(1999).
Yang Y.,et al.Biochem. Biophys. Res. Commun. 332:181-187(2005).
Heilig R.,et al.Nature 421:601-607(2003).
Ota T.,et al.Nat. Genet. 36:40-45(2004).