ARG66476
anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5]

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Monoclonal antibody [YJY-1-5] recognizes RIPK1 / RIP1 phospho (Ser166)
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-Fr, IHC-P, IP, WB
Host	Rabbit
Clonality	Monoclonal
Clone	YJY-1-5
Isotype	IgG
Target Name	RIPK1 / RIP1
Species	Mouse
Immunogen	Phosphospecific peptide around Ser166 of Mouse RIPK1 / RIP1.
Conjugation	Un-conjugated
Alternate Names	Receptor-interacting protein 1; RIP-1; Receptor-interacting serine/threonine-protein kinase 1; RIP; Cell death protein RIP; RIP1; EC 2.7.11.1; Serine/threonine-protein kinase RIP

Application Instructions

Application table

Application	Dilution
ICC/IF	1:100 - 1:500
IHC-Fr	1:100 - 1:500
IHC-P	1:100 - 1:500
IP	1:50 - 1:500
WB	1:1000 - 1:2000

Application Note

IHC-P: Antigen Retrieval: Citrate buffer (pH 6.0) at high pressure and temperature.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

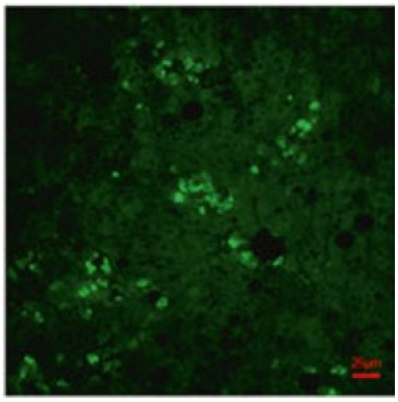
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.01% Sodium azide, 40% Glycerol and BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and BSA

Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	RIPK1
Gene Full Name	receptor (TNFRSF)-interacting serine-threonine kinase 1
Background	RIPK1 / RIP1 is a member of the receptor-interacting protein (RIP) family of serine/threonine protein kinases. The encoded protein plays a role in inflammation and cell death in response to tissue damage, pathogen recognition, and as part of developmental regulation. RIPK1/RIPK3 kinase-mediated necrosis is referred to as necroptosis. Genetic disruption of this gene in mice results in death shortly after birth. [provided by RefSeq, Aug 2017]
Function	RIPK1 / RIP1: Serine-threonine kinase which is a key regulator of both cell death and cell survival (PubMed:25459879). Exhibits kinase activity-dependent functions that trigger cell death and kinase-independent scaffold functions regulating inflammatory signaling and cell survival (PubMed:11101870, PubMed:25459879). Initiates ripoptocide which describes cell death that is dependent on RIPK1, be it apoptosis or necroptosis (PubMed:31457011). Upon binding of TNF to TNFR1, RIPK1 is recruited to the TNF-R1 signaling complex (TNF-RSC also known as complex I) where it acts as a scaffold protein promoting cell survival, in part, by activating the canonical NF-kB pathway. Specific conditions can however activate RIPK1, and its kinase activity then regulates assembly of two death-inducing complexes, namely complex IIa (RIPK1-FADD-CASP8) and the complex IIb (RIPK1-RIPK3-MLKL) and these complexes respectively drive apoptosis or necroptosis, a regulated form of necrosis (PubMed:19524513, PubMed:19524512, PubMed:29440439, PubMed:30988283). During embryonic development suppresses apoptosis and necroptosis and prevents the interaction of TRADD with FADD thereby limiting aberrant activation of CASP8. Phosphorylates DAB2IP at 'Ser-728' in a TNF- alpha-dependent manner, and thereby activates the MAP3K5-JNK apoptotic cascade (PubMed:17389591). Required for ZBP1-induced NF-kappaB activation and activation of NF-kappaB by DNA damage and IR. [UniProt]
Highlight	Related products: RIPK1 antibodies; RIPK1 Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: RIP1 activation and pathogenesis of NASH Ripoptosome & Necrosome antibody panels are launched RIP1 pSer166 antibody good for human and mouse samples
Calculated Mw	76 kDa
PTM	Proteolytically cleaved by caspase-8 during TNF-induced apoptosis. Cleavage abolishes NF-kappa-B activation and enhances pro-apoptotic signaling through the TRADD-FADD interaction. RIPK1 and RIPK3 undergo reciprocal auto- and trans-phosphorylation. Phosphorylation of Ser-161 by RIPK3 is necessary for the formation of the necroptosis-inducing complex. Ubiquitinated by 'Lys-11'-, 'Lys-48'-, 'Lys-63'- and linear-linked type ubiquitin. Polyubiquitination with 'Lys-63'-linked chains by TRAF2 induces association with the IKK complex. Deubiquitination of 'Lys-63'-linked chains and polyubiquitination with 'Lys-48'-linked chains by TNFAIP3 leads to RIPK1 proteasomal degradation and consequently down-regulates TNF-alpha-induced NFkappa-B signaling. 'Lys-48'-linked polyubiquitination by RFFL or RNF34 also promotes proteasomal degradation and negatively regulates TNF-alpha-induced NFkappa-B signaling. Linear polyubiquitinated; the head-to-tail polyubiquitination is mediated by the LUBAC complex. LPS-mediated activation of NF-kappa-B. Also ubiquitinated with 'Lys-11'-linked chains. Polyubiquitinated with 'Lys-48' and 'Lys-63'-linked chains by BIRC2/c-IAP1 and BIRC3/c-IAP2, leading to activation of NF-kappa-B. [UniProt]
Cellular Localization	Cytoplasm. Cell membrane. [UniProt]

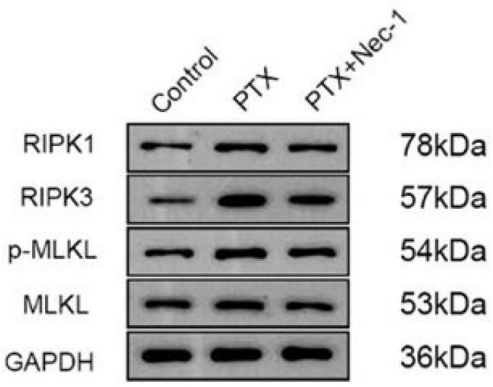
Images



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5]
IHC-P image

Immunohistochemistry: Mouse sample stained with ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].

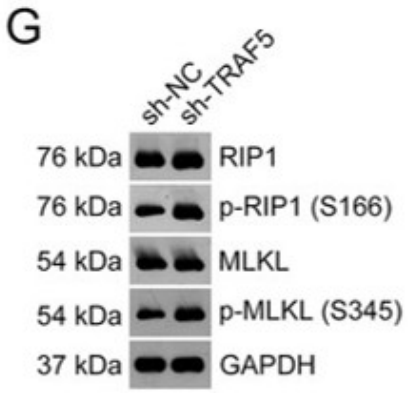
From Hiroki Saijo et al. pre-print (2025), doi: 10.21203/rs.3.rs-5857284/v1, Fig. 6.



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5]
WB image

Western blot: HT22 stained with ARG41235 anti-RIPK3 / RIP3 phospho (Ser232) antibody and ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].

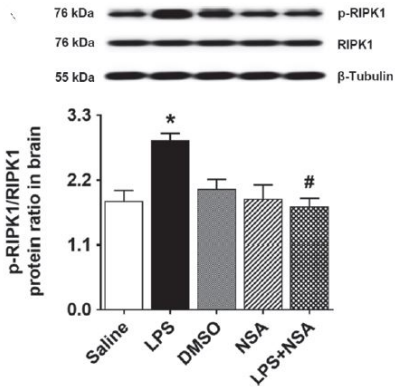
From Lan-Lan Liu et al. Preprint (2024), doi: 10.21203/rs.3.rs-3841052/v1, Fig. 2A.



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5]
WB image

Western blot: HepG2 stained with ARG40183 anti-RIPK1 / RIP1 antibody and ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].

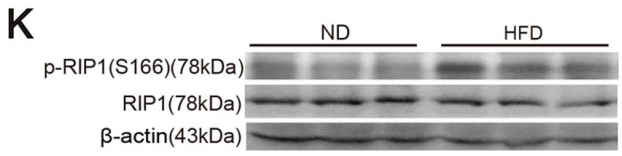
From Wu G et al. PeerJ. (2023), doi: 10.7717/peerj.15551, Fig. 2. G.



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5]
WB image

Western blot: Mouse brain stained with ARG55746 anti-RIPK1 / RIP1 antibody and ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].

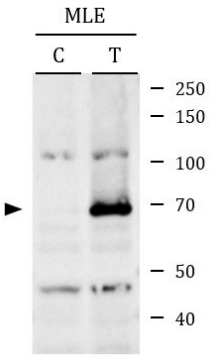
From Beyza Ozgen et al. Research Article (2022), doi: , Fig. 3. A.



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5] WB image

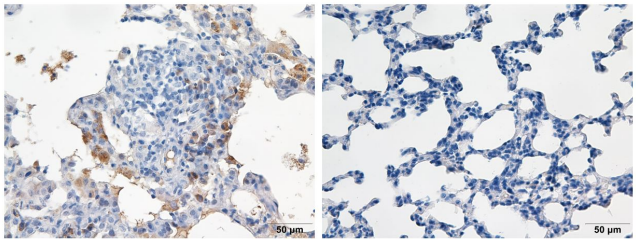
Western blot: Mouse liver stained with ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].

From Tao L et al. Cell Death Differ- (2021), doi: 10.1038/s41418-020-00668-w, Fig. 1. K.



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5] WB image

Western blot: MLE cells untreated control (C) or treated with 20 ng/ml of TNF alpha, 1 µM of BV-6 and 20 µM of Z-VAD-FMK for 8 hours (T). Cell lysates were stained with ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5].



ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5] IHC-P image

Immunohistochemistry: Paraffin-embedded rat lung tissue from rat silicosis model. Antigen Retrieval: Citrate buffer (pH 6.0) at high pressure and temperature. The tissue section was stained with ARG66476 anti-RIPK1 / RIP1 phospho (Ser166) antibody [YJY-1-5] at 1:70 dilution. The picture on the right is negative control.