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RIPK2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7818B

Product Information

Application	WB, IHC-P, E
Primary Accession	O43353
Other Accession	NP_003812
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB03318
Calculated MW	61195
Antigen Region	458-488

Additional Information

Gene ID	8767
Other Names	Receptor-interacting serine/threonine-protein kinase 2, CARD-containing interleukin-1 beta-converting enzyme-associated kinase, CARD-containing IL-1 beta ICE-kinase, RIP-like-interacting CLARP kinase, Receptor-interacting protein 2, RIP-2, Tyrosine-protein kinase RIPK2, RIPK2, CARDIAK, RICK, RIP2
Target/Specificity	This RIPK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 458-488 amino acids from the C-terminal region of human RIPK2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RIPK2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RIPK2 {ECO:0000303|PubMed:30026309, ECO:0000312|HGNC:HGNC:10020}
Function	Serine/threonine/tyrosine-protein kinase that plays an essential role in

	modulation of innate and adaptive immune responses (PubMed:14638696, PubMed:17054981, PubMed:21123652, PubMed:28656966, PubMed:9575181, PubMed:9642260). Acts as a key effector of NOD1 and NOD2 signaling pathways: upon activation by bacterial peptidoglycans, NOD1 and NOD2 oligomerize and recruit RIPK2 via CARD-CARD domains, leading to the formation of RIPK2 filaments (PubMed:17054981, PubMed:17562858, PubMed:21123652, PubMed:22607974, PubMed:28656966, PubMed:29452636, PubMed:30026309). Once recruited, RIPK2 autophosphorylates and undergoes 'Lys-63'-linked polyubiquitination by E3 ubiquitin ligases XIAP, BIRC2 and BIRC3, as well as 'Met-1'-linked (linear) polyubiquitination by the LUBAC complex, becoming a scaffolding protein for downstream effectors (PubMed:22607974, PubMed:28545134, PubMed:29452636, PubMed:30026309, PubMed:30279485, PubMed:30478312). 'Met-1'-linked polyubiquitin chains attached to RIPK2 recruit IKBKG/NEMO, which undergoes 'Lys-63'-linked polyubiquitination in a RIPK2-dependent process (PubMed:17562858, PubMed:22607974, PubMed:29452636, PubMed:30026309). 'Lys-63'-linked polyubiquitin chains attached to RIPK2 serve as docking sites for TAB2 and TAB3 and mediate the recruitment of MAP3K7/TAK1 to IKBKG/NEMO, inducing subsequent activation of IKBKB/IKKB (PubMed:18079694). In turn, NF-kappa-B is released from NF-kappa-B inhibitors and translocates into the nucleus where it activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis (PubMed:18079694). The protein kinase activity is dispensable for the NOD1 and NOD2 signaling pathways (PubMed:29452636, PubMed:30026309). Contributes to the tyrosine phosphorylation of the guanine exchange factor ARHGEF2 through Src tyrosine kinase leading to NF-kappa-B activation by NOD2 (PubMed:21887730). Also involved in adaptive immunity: plays a role during engagement of the T-cell receptor (TCR) in promoting BCL10 phosphorylation and subsequent NF-kappa-B activation (PubMed:14638696). Plays a role in the inactivation of RHOA in response to NGFR signaling (PubMed:26646181).
Cellular Location	Cytoplasm. Cell membrane; Peripheral membrane protein. Endoplasmic reticulum. Note=Recruited to the cell membrane by NOD2 following stimulation by bacterial peptidoglycans
Tissue Location	Detected in heart, brain, placenta, lung, peripheral blood leukocytes, spleen, kidney, testis, prostate, pancreas and lymph node.

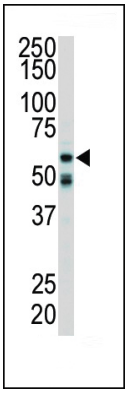
Background

RIPK2 is a member of the receptor-interacting protein (RIP) family of serine/threonine protein kinases. The encoded protein contains a C-terminal recruitment domain (CARD), and is a component of signaling complexes in both the innate and adaptive immune pathways. It is a potent activator of NF-kappaB and inducer of apoptosis in response to various stimuli.

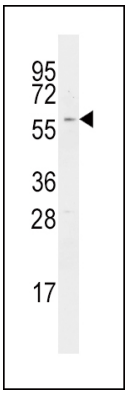
References

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Chen, Y.R., et al., Biochemistry 42(20):6310-6320 (2003).
Munz, B., et al., Mol. Cell. Biol. 22(16):5879-5886 (2002).
Chin, A.I., et al., Nature 416(6877):190-194 (2002).

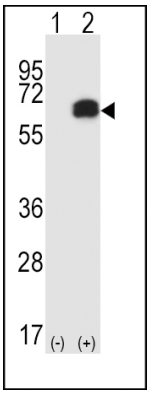
Images



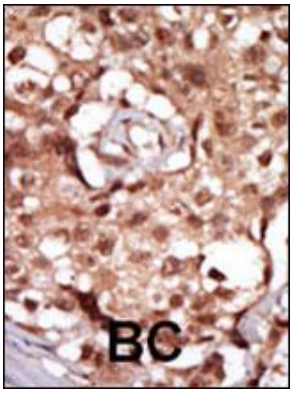
Western blot analysis of anti-RIPK2 Pab (Cat. #AP7818b) in mouse cerebellum tissue lysate. RIPK2 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Western blot analysis of anti-RIPK2 Pab (Cat. #AP7818b) in Ramos cell line lysates (35ug/lane). RIPK2 (arrow) was detected using the purified Pab.

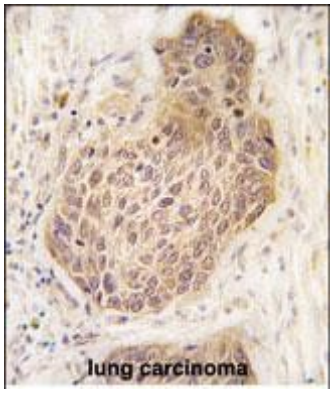


Western blot analysis of RIPK2 (arrow) using rabbit polyclonal RIPK2 Antibody (D474) (Cat.#AP7818b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the RIPK2 gene.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with RIPK2 Antibody (C-term) (Cat.#AP7818b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



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