

**RICK Antibody**  
**Catalog # ASC10079****Specification****RICK Antibody - Product Information**

Application	WB, ICC, IF
Primary Accession	<a href="#">O43353</a>
Other Accession	<a href="#">O43353</a> , <a href="#">20455217</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	60 kDa KDa
Application Notes	RICK antibody can be used for detection of RICK by Western blot at 1 - 2 µg/mL. An approximately 60 kDa band can be detected. Antibody can also be used for immunocytochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

**RICK Antibody - Additional Information**Gene ID **8767****Other Names**

RICK Antibody: CCK, RICK, RIP2, CARD3, GIG30, CARDIAK, UNQ277/PRO314/PRO34092, CARD-containing interleukin-1 beta-converting enzyme-associated kinase, CARD-containing IL-1 beta ICE-kinase, receptor-interacting serine-threonine kinase 2

**Target/Specificity**

RIPK2;

**Reconstitution & Storage**

RICK antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

RICK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**RICK Antibody - 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:<a href="http://www.uniprot.org/citations/14638696" target="\_blank">14638696</a>, PubMed:<a href="http://www.uniprot.org/citations/17054981" target="\_blank">17054981</a>, PubMed:<a href="http://www.uniprot.org/citations/21123652" target="\_blank">21123652</a>)

target="\_blank">21123652</a>, PubMed:<a href="http://www.uniprot.org/citations/28656966" target="\_blank">28656966</a>, PubMed:<a href="http://www.uniprot.org/citations/9575181" target="\_blank">9575181</a>, PubMed:<a href="http://www.uniprot.org/citations/9642260" target="\_blank">9642260</a>). 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:<a href="http://www.uniprot.org/citations/17054981" target="\_blank">17054981</a>, PubMed:<a href="http://www.uniprot.org/citations/17562858" target="\_blank">17562858</a>, PubMed:<a href="http://www.uniprot.org/citations/21123652" target="\_blank">21123652</a>, PubMed:<a href="http://www.uniprot.org/citations/22607974" target="\_blank">22607974</a>, PubMed:<a href="http://www.uniprot.org/citations/28656966" target="\_blank">28656966</a>, PubMed:<a href="http://www.uniprot.org/citations/29452636" target="\_blank">29452636</a>, PubMed:<a href="http://www.uniprot.org/citations/30026309" target="\_blank">30026309</a>). 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:<a href="http://www.uniprot.org/citations/22607974" target="\_blank">22607974</a>, PubMed:<a href="http://www.uniprot.org/citations/28545134" target="\_blank">28545134</a>, PubMed:<a href="http://www.uniprot.org/citations/29452636" target="\_blank">29452636</a>, PubMed:<a href="http://www.uniprot.org/citations/30026309" target="\_blank">30026309</a>, PubMed:<a href="http://www.uniprot.org/citations/30279485" target="\_blank">30279485</a>, PubMed:<a href="http://www.uniprot.org/citations/30478312" target="\_blank">30478312</a>). 'Met-1'-linked polyubiquitin chains attached to RIPK2 recruit IKBKG/NEMO, which undergoes 'Lys-63'-linked polyubiquitination in a RIPK2-dependent process (PubMed:<a href="http://www.uniprot.org/citations/17562858" target="\_blank">17562858</a>, PubMed:<a href="http://www.uniprot.org/citations/22607974" target="\_blank">22607974</a>, PubMed:<a href="http://www.uniprot.org/citations/29452636" target="\_blank">29452636</a>, PubMed:<a href="http://www.uniprot.org/citations/30026309" target="\_blank">30026309</a>). '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/IKK (PubMed:<a href="http://www.uniprot.org/citations/18079694" target="\_blank">18079694</a>). 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:<a href="http://www.uniprot.org/citations/18079694" target="\_blank">18079694</a>). The protein kinase activity is dispensable for the NOD1 and NOD2 signaling pathways (PubMed:<a href="http://www.uniprot.org/citations/29452636" target="\_blank">29452636</a>, PubMed:<a href="http://www.uniprot.org/citations/30026309" target="\_blank">30026309</a>). Contributes to the tyrosine phosphorylation of the guanine exchange factor ARHGEF2 through Src tyrosine kinase leading to NF-kappa-B activation by NOD2 (PubMed:<a href="http://www.uniprot.org/citations/21887730" target="\_blank">21887730</a>). 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:<a href="http://www.uniprot.org/citations/14638696" target="\_blank">14638696</a>). Plays a role in the inactivation of RHOA in response to NGFR signaling (PubMed:<a href="http://www.uniprot.org/citations/26646181" target="\_blank">26646181</a>).

### 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

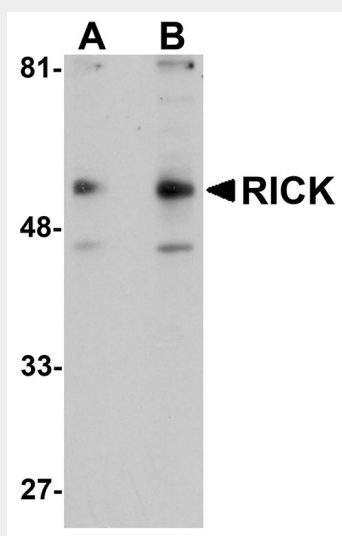
Detected in heart, brain, placenta, lung, peripheral blood leukocytes, spleen, kidney, testis, prostate, pancreas and lymph node.

### RICK Antibody - Protocols

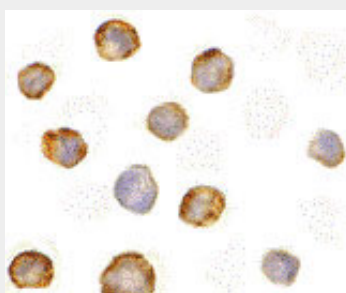
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

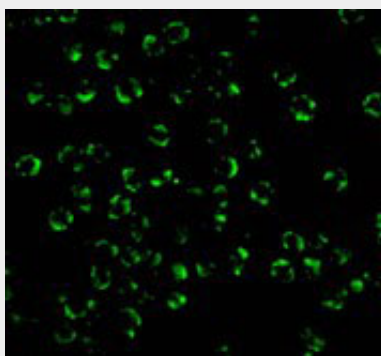
#### **RICK Antibody - Images**



Western blot analysis of RICK in A431 cell lysate with RICK antibody at (A) 1 and (B) 2  $\mu\text{g/mL}$ .



Immunocytochemistry of RICK in K562 cells with RICK antibody at 5  $\mu\text{g/mL}$ .



Immunofluorescence of RICK in K562 cells with RICK antibody at 20 µg/mL.

### **RICK Antibody - Background**

RICK Antibody: Apoptosis is mediated by death domain (DD) and/or caspase recruitment domain (CARD) containing molecules and a caspase family of proteases. DD-containing serine/threonine kinase RIP regulates Fas-induced apoptosis. A novel CARD-containing serine/threonine kinase was recently identified and designated RICK/RIP2/CARDIAK for RIP-like interacting CLARP kinase, receptor interacting protein-2, and CARD-containing ICE associated kinase, respectively. RICK contains an N-terminal kinase catalytic domain and a C-terminal CARD domain. Overexpression of RICK induced apoptosis and activation of NF-κB and JNK. RICK interacts with members of the TRAF family, CLARP and caspase-1. Thus, RICK represents a novel kinase that regulates TNF and Fas induced-apoptosis and that is involved in the generation of proinflammatory cytokine IL-1β. The messenger RNA of RICK is expressed in multiple human tissues.

### **RICK Antibody - References**

Inohara N, del Peso L, Koseki T, Chen S, Nunez G. RICK, a novel protein kinase containing a caspase recruitment domain, interacts with CLARP and regulates CD95-mediated apoptosis. *J Biol Chem* 1998;273:12296-300  
McCarthy JV, Ni J, Dixit VM. RIP2 is a novel NF-κB-activating and cell death-inducing kinase. *J Biol Chem* 1998;273:16968-75  
Thome M, Hofmann K, Burns K, Martinon F, Bodmer JL, Mattmann C, Tschopp J. Identification of CARDIAK, a RIP-like kinase that associates with caspase-1. *Curr Biol* 1998;8:885-8 (WD0300)