abcam

ab184257

Anti-PKR antibody [EPR19374]

Anti-PKR antibody [EPR19374] (ab184257) is a rabbit monoclonal antibody detecting PKR in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR19374
Purification technique	Affinity purification Protein A
Concentration	0.61 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/40
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100

Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/120
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information EIF2AK2

Function IFN-induced dsRNA-dependent serine/threonine-protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (EIF2S1/eIF-2-alpha) and plays a key role in the innate immune response to viral infection (PubMed:18835251, PubMed:19189853, PubMed:19507191, PubMed:21072047, PubMed:21123651, PubMed:22381929, PubMed:22948139, PubMed:23229543). Inhibits viral replication via the integrated stress response (ISR): EIF2S1/eIF-2-alpha phosphorylation in response to viral infection converts EIF2S1/eIF-2-alpha in a global protein synthesis inhibitor, resulting to a shutdown of cellular and viral protein synthesis, while concomitantly initiating the preferential translation of ISR-specific mRNAs, such as the transcriptional activator ATF4 (PubMed:19189853, PubMed:21123651, PubMed:22948139, PubMed:23229543). Exerts its antiviral activity on a wide range of DNA and RNA viruses including hepatitis C virus (HCV), hepatitis B virus (HBV), measles virus (MV) and herpes simplex virus 1 (HHV-1) (PubMed:11836380, PubMed:19189853, PubMed:19840259, PubMed:20171114, PubMed:21710204, PubMed:23115276, PubMed:23399035). Also involved in the regulation of signal transduction,

apoptosis, cell proliferation and differentiation: phosphorylates other substrates including p53/TP53, PPP2R5A, DHX9, ILF3, IRS1 and the HHV-1 viral protein US11 (PubMed:11836380, PubMed:19229320, PubMed:22214662). In addition to serine/threonine-protein kinase activity, also has tyrosine-protein kinase activity and phosphorylates CDK1 at 'Tyr-4' upon DNA damage, facilitating its ubiquitination and proteasomal degradation (PubMed:20395957). Either as an adapter protein and/or via its kinase activity, can regulate various signaling pathways (p38 MAP kinase, NF-kappa-B and insulin signaling pathways) and transcription factors (JUN, STAT1, STAT3, IRF1, ATF3) involved in the expression of genes encoding pro-inflammatory cytokines and IFNs (PubMed:22948139, PubMed:23084476, PubMed:23372823). Activates the NF-kappa-B pathway via interaction with IKBKB and TRAF family of proteins and activates the p38 MAP kinase pathway via interaction with MAP2K6 (PubMed:10848580, PubMed:15121867, PubMed:15229216). Can act as both a positive and negative regulator of the insulin signaling pathway (ISP) (PubMed:20685959). Negatively regulates ISP by inducing the inhibitory phosphorylation of insulin receptor substrate 1 (IRS1) at 'Ser-312' and positively regulates ISP via phosphorylation of PPP2R5A which activates FOXO1, which in turn up-regulates the expression of insulin receptor substrate 2 (IRS2) (PubMed:20685959). Can regulate NLRP3 inflammasome assembly and the activation of NLRP3, NLRP1, AIM2 and NLRC4 inflammasomes (PubMed:22801494). Plays a role in the regulation of the cytoskeleton by binding to gelsolin (GSN), sequestering the protein in an inactive conformation away from actin (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-PKR antibody [EPR19374] (ab184257) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of PKR?

Anti-PKR [EPR19374] (ab184257) specifically detects a band for PKR (UniProt: Q03963) at a molecular weight of 58kDa.

Trusted by the scientific community
Anti-PKR [EPR19374] (ab184257) was first used in a scientific publication in 2015 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-PKR antibody [EPR19374] (ab184257) has been confirmed by Western blot testing in EIF2AK2 Knockout HAP1 cell line, ab266999.

Other related products
We have a range of other formats of antibody clone [EPR19374] also available for your convenience: ab184257, Carrier free - ab224887

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

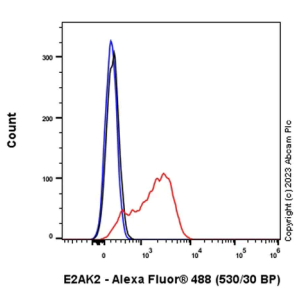
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

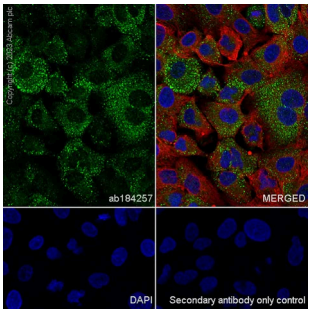
Full details and terms and conditions can be found here:
Terms & Conditions.

12 product images



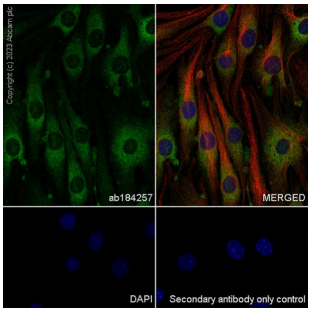
Flow Cytometry (Intracellular) - Anti-PKR antibody [EPR19374] (ab184257)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilised bEnd.3 (mouse brain endothelial cell) cells labeling PKR with ab184257 at 1/500 dilution (red) compared with a Rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-PKR antibody [EPR19374] (ab184257)

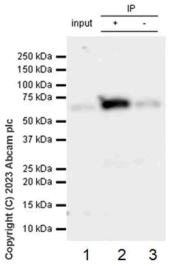
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A549 (human lung carcinoma epithelial cell) labeling PKR with ab184257 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preabsorbed (ab150081) secondary antibody at 1/1000 dilution (green). Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 was used as a counterstain The nuclear counterstain is DAPI (blue) Confocal image showing cytoplasmic and weak nuclear staining in A549 cell line. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Anti-PKR antibody [EPR19374] (ab184257)

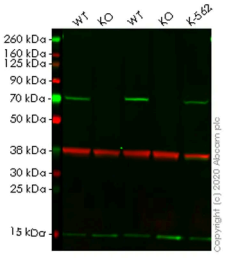
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized bEnd.3 (mouse brain endothelial cell) labeling PKR with ab184257 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preabsorbed (ab150081) secondary antibody at 1/1000 dilution (green). Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 was used as a counterstain The nuclear counterstain is DAPI (blue) Confocal image showing cytoplasmic and weak nuclear staining in bEnd.3 cell line. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

Immunoprecipitation - Anti-PKR antibody [EPR19374] (ab184257)



PKR was immunoprecipitated from mouse hippocampus lysate with ab184257 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed from the immunoprecipitate using ab184257 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5000 dilution. Lane 1: Mouse hippocampus tissue lysate 10 µg (Input). Lane 2: ab184257 IP in Mouse hippocampus tissue lysate. Lane 3: Rabbit IgG,monoclonal [EPR19374] - Isotype Control (ab172730) instead of ab184257 in mouse hippocampus tissue lysate. Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 31 seconds.

Western blot - Anti-PKR antibody [EPR19374] (ab184257)



PKR Western blot staining using rabbit Anti-PKR antibody

Lanes 1-5: Merged signal (red and green). Green - ab184257 observed at 70 kDa. Red - loading control ab8245 observed at 36 kDa.
ab184257 Anti-PKR antibody [EPR19374] was shown to specifically react with PKR in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab261824 (knockout cell lysate ab256899) was used. Wild-type and PKR knockout samples were subjected to SDS-PAGE. ab184257 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/1000 dilution

Lane 1:
Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
EIF2AK2 knockout HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
Western blot - Human EIF2AK2 (PKR) knockout HeLa cell line (ab261824)

Lane 3:
Wild-type A549 (Human lung carcinoma cell line) whole cell lysate at 20 µg

Lane 4:
EIF2AK2 knockout A549 (Human lung carcinoma cell line) whole cell lysate at 20 µg

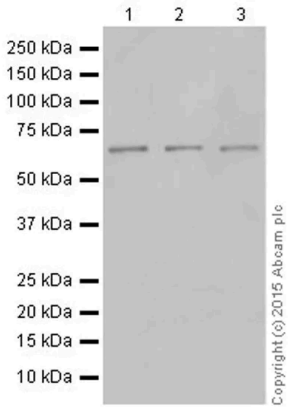
Lane 5:
K562 (Human chronic myelogenous leukemia lymphoblast cell line) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 62 kDa

Observed band size: 70 kDa



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/2000 dilution

Lane 1:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Lane 2:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 3:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg

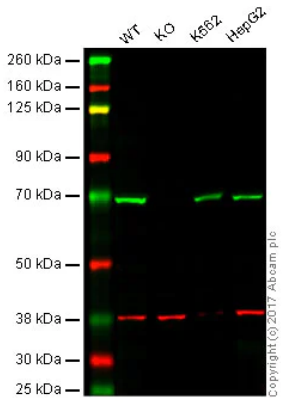
Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 62 kDa

Observed band size: 58 kDa

Exposure time: 3min



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

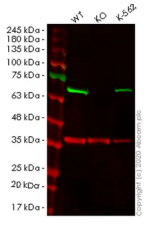
PKR Western blot staining using rabbit Anti-PKR antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: EIF2AK2 knockout HAP1 whole cell lysate (20 µg)
Lane 3: K562 whole cell lysate (20 µg)
Lane 4: HepG2 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab184257 observed at 70 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab184257 was shown to specifically react with EIF2AK2 when EIF2AK2 knockout samples were used. Wild-type and EIF2AK2 knockout samples were subjected to SDS-PAGE. ab184257 and ab9484 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257)

Predicted band size: 62 kDa



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

PKR Western blot staining using rabbit Anti-PKR antibody

Lanes 1-3: Merged signal (red and green). Green - ab184257 observed at 70 kDa. Red - loading control ab8245 observed at 36 kDa.

ab184257 Anti-PKR antibody [EPR19374] was shown to specifically react with PKR in wild-type A549 cells. Loss of signal was observed when knockout cell line ab267000 (knockout cell lysate ab256901) was used. Wild-type and PKR knockout samples were subjected to SDS-PAGE. ab184257 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at room temperature for 2. 5 hours at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/1000 dilution

Lane 1:
Wild-type A549 cell lysate at 20 µg

Lane 2:
Western blot - Human EIF2AK2 (PKR) knockout A549 cell lysate (ab256901) at 20 µg

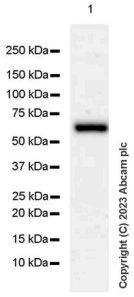
Lane 3:
K-562 cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 62 kDa, 86 kDa

Observed band size: 70 kDa, 86 kDa



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/1000 dilution

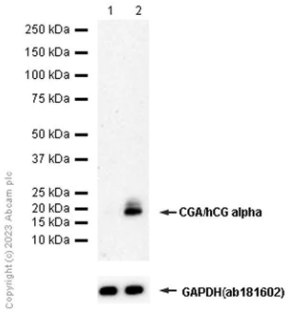
All lanes:
bEnd.3 (mouse brain endothelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 62 kDa

Exposure time: 114s



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

Blocking and diluting buffer: 5% NFDM/TBST
Lanes 1 - 2:
Western blot - Anti-CGA/hCG alpha antibody [EP3373] (ab92738) at 1/2000 dilution

Lane 1:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/1000 dilution

Lane 1:

JAR (Human placenta choriocarcinoma epithelial cell) whole cell lysate

Lane 1:
bEnd.3 (mouse brain endothelial cell) whole cell lysate at 20 µg

Lane 2:
JAR (Human placenta choriocarcinoma epithelial cell) whole cell lysate treated with Hydroxyurea (10mM 24h)

Secondary

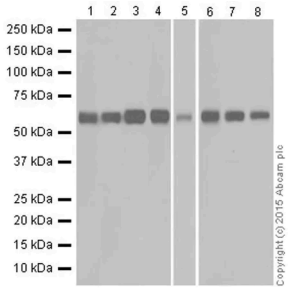
Lanes 1 - 2:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Lane 1:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Performed under reducing conditions.

Observed band size: 18 kDa

Exposure time: 180s



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

PKR Western blot staining using rabbit Anti-PKR antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1,2,3 and 4: 3 minutes; Lane 5: 30 seconds; Lane 6,7 and 8: 10 seconds.

All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 20 µg

Lane 2:
Mouse cerebral cortex lysate at 20 µg

Lane 3:
Mouse hippocampus lysate at 20 µg

Lane 4:
Mouse lung lysate at 20 µg

Lane 5:
Mouse thymus lysate at 20 µg

Lane 6:
Rat brain lysate at 20 µg

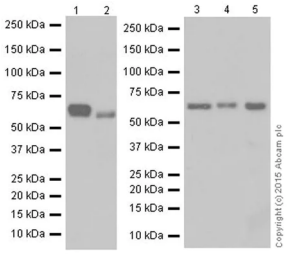
Lane 7:
Rat cerebral cortex lysate at 20 µg

Lane 8:
4T1 (Mouse mammary gland carcinoma cell line) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 62 kDa



Western blot - Anti-PKR antibody [EPR19374] (ab184257)

PKR Western blot staining using rabbit Anti-PKR antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1 and 2: 3 minutes; Lane 3,4 and 5: 5 seconds.

All lanes:
Western blot - Anti-PKR antibody [EPR19374] (ab184257) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse heart lysate at 10 µg

Lane 3:
Rat brain lysate at 10 µg

Lane 4:
Rat heart lysate at 10 µg

Lane 5:
Rat spleen lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 62 kDa

Observed band size: 58 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.