abcam

ab32514

Anti-PKA R2/PKR2 antibody [Y116]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	Y116
Purification technique	Affinity purification Protein A
Specificity	The antibody recognises PKA RII. It does not cross-react with other cAMP-dependent kinase.
Concentration	0.089 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100

Notes	**For unpurified use at 1/100 - 1/250.**

Predicted

Species	Cow
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.**

Predicted

Species	Cow
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000
Notes	**For unpurified use at 1/10000 - 1/50000.**

Predicted

Species	Cow
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

Target data

See full target information PRKAR2A

Function	Regulatory subunit of the cAMP-dependent protein kinases involved in cAMP signaling in cells. Type II regulatory chains mediate membrane association by binding to anchoring proteins, including the MAP2 kinase.

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

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Protein Kinase A R2 (PKR2) also known as PRKAR2A is a regulatory subunit of Protein Kinase A (PKA). PKA is part of a larger complex known as the cAMP-dependent protein kinase which plays an important role in cellular signaling. PKA consists of regulatory and catalytic subunits with PKR2 serving as one of its regulatory forms. PKR2 possesses a molecular mass of approximately 47 kDa and is available in various human tissues with notable expression in the brain and cardiovascular system.

Biological function summary	PKR2 regulates the activity of PKA by binding to the catalytic subunit in the absence of cAMP therefore inhibiting its activity. When cAMP is present it binds to the regulatory subunit PKR2 leading to the release and activation of the catalytic subunit of PKA. PKR2 is an integral part of the PKA holoenzyme complex which plays a critical role in mediating cellular responses to hormonal stimulation.
Pathways	PKR2 is heavily involved in the cAMP-dependent signaling pathway. This pathway is essential for translating extracellular signals into cellular actions. It interacts with various effector proteins including adenylate cyclases and phosphodiesterases to modulate responses such as gene transcription metabolism and memory formation. PKR2-related activity influences pathways shared with proteins like the G-protein subunits which facilitate the effects of neurotransmitters.
Associated diseases and disorders	PKR2 irregularities can impact conditions like heart failure and neurodegenerative diseases. Disrupted PKA pathway signaling involving PKR2 can contribute to cardiac dysfunction by affecting heart muscle contractility and hypertrophy. In neurodegenerative diseases the improper functioning of PKR2 can exacerbate disruptions in neural signaling. A connection exists between PKR2 and proteins such as CREB (cAMP response element-binding protein) which links PKR2's role to memory deficits observed in neurodegeneration.

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

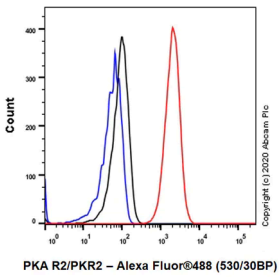
We do not recommend this combination. It is not covered by our product promise.

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.

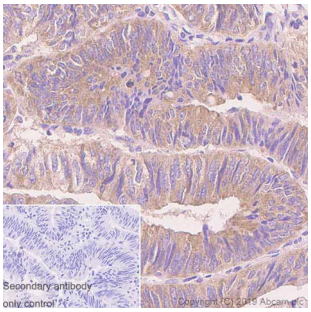
5 product images



Flow Cytometry (Intracellular) - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

PKA R2/PKR2 Flow Cytometry (Intracellular) staining using rabbit Anti-PKA R2/PKR2 antibody

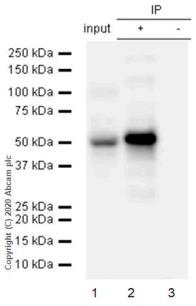
Intracellular Flow Cytometry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling PKA R2/PKR2 with purified ab32514 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

PKA R2/PKR2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PKA R2/PKR2 antibody

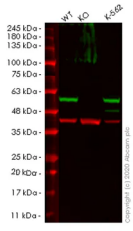
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon cancer tissue sections labeling PKA R2/PKR2 with purified ab32514 at 1/100 dilution (0.84 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunoprecipitation - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

Purified ab32514 at 1/20 dilution (0.5µg) immunoprecipitating PKA R2/PKR2 in K-562 whole cell lysate.
Lane 1 (input): K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate 10µg
Lane 2 (+): ab32514 + K-562 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab32514 in K-562 whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 50 kDa
All lanes:
Immunoprecipitation - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

Predicted band size: 45 kDa



Western blot - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

PKA R2/PKR2 Western blot staining using rabbit Anti-PKA R2/PKR2 antibody

Lanes 1-3: Merged signal (red and green). Green - ab32514 observed at 50 kDa. Red - loading control ab8245 observed at 36 kDa.
Unpurified ab32514 Anti-PKA R2/PKR2 antibody [Y116] was shown to specifically react with PKA R2/PKR2 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265748

(knockout cell lysate ab257607) was used. Wild-type and PKA R2/PKR2 knockout samples were subjected to SDS-PAGE. ab32514 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-PKA R2/PKR2 antibody [Y116] (ab32514) at 1/1000 dilution

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

Lane 2:
Western blot - Human PRKAR2A (PKA R2/PKR2) knockout HeLa cell lysate (ab257607) at 20 µg

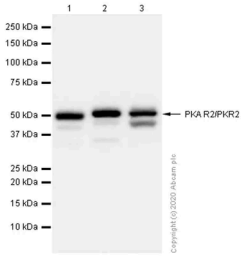
Lane 3:
K-562 cell lysate at 20 µg

Secondary

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

Predicted band size: 45 kDa

Observed band size: 50 kDa



Western blot - Anti-PKA R2/PKR2 antibody [Y116] (ab32514)

PKA R2/PKR2 Western blot staining using rabbit Anti-PKA R2/PKR2 antibody

All lanes:
Western blot - Anti-PKA R2/PKR2 antibody [Y116] (ab32514) at 1/10000 dilution

Lane 1:
K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

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

Lane 3:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Secondary

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

Predicted band size: 45 kDa

Observed band size: 50 kDa

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