abcam

# ab75996

# Anti-PRKAR2B antibody [EP2648]

RabMAb | 20ul selling size

## 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** | EP2648 |
| **Purity** | Tissue culture supernatant |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 - 1/250 |
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

### Expected

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | - |

## IP

### Not recommended

| | |
|---|---|
| **Species** | Mouse, Human, Rat |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/5000 - 1/20000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/5000 - 1/20000 |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20 - 1/100 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information cAMP-dependent protein kinase type II-beta regulatory subunit

| | |
|---|---|
| **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** | Blue Ice |
| **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

**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.

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | PRKAR2B also known as cAMP-dependent protein kinase type II-beta regulatory subunit plays a mechanical role by regulating the activity of the protein kinase A (PKA) holoenzyme. With a molecular mass of approximately 46 kDa PRKAR2B serves in anchoring the catalytic subunits in an inactive state in the cytosol. This protein is expressed in various tissues with particularly high levels in the brain. Its presence helps in modulating cellular response to fluctuating levels of cyclic adenosine monophosphate (cAMP). |
| **Biological function summary** | PRKAR2B holds a significant role in modulating signal transduction pathways by forming a complex with the catalytic subunits of PKA. This complex becomes active when cAMP binds to the regulatory subunit leading to the release and activation of the catalytic subunits. PRKAR2B's ability to anchor the catalytic subunits places it in central roles in processes like synaptic plasticity and memory formation. It is essential in processes that require precise control of PKA activity allowing response to external stimuli. |
| **Pathways** | PRKAR2B integrates into the cAMP signaling pathway and is impactful in the mitogen-activated protein kinase (MAPK) pathway. In the cAMP signaling pathway PRKAR2B regulates the activity of PKA which can phosphorylate numerous target proteins that affect transcription and metabolic regulation. PRKAR2B also interacts with proteins such as AKAP79/150 which target PKA to specific subcellular locations aligning closely with its biological functions within critical pathways. |
| **Associated diseases and disorders** | Alterations in PRKAR2B function or expression have implications in neurological disorders such as schizophrenia and mood disorders. An imbalance in its activity can lead to disrupted cAMP signaling which affects neuronal communication and function. It is related to disorders through its interaction with other proteins such as DARPP-32 which also link to dopaminergic signaling pathways often implicated in these conditions. Research continues to explore PRKAR2B's role in these diseases providing greater understanding of its pathophysiological contributions. |

## 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.

---

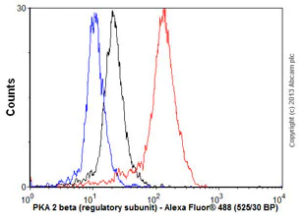
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

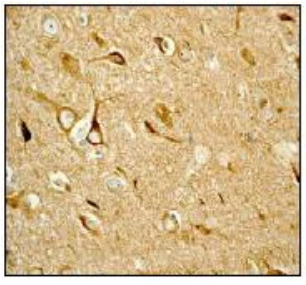
## 3 product images




### Flow Cytometry (Intracellular) - Anti-PRKAR2B antibody [EP2648] (ab75996)

PRKAR2B Flow Cytometry (Intracellular) staining using rabbit Anti-PRKAR2B antibody

Overlay histogram showing SHSY-5Y cells stained with ab75996 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab75996 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x$10^6$ cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

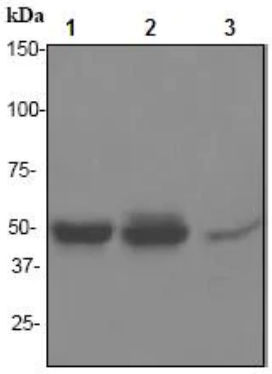


### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PRKAR2B antibody [EP2648] (ab75996)

PRKAR2B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PRKAR2B antibody

ab75996, at 1/100 dilution, staining PRKAR2B in paraffin-embedded human brain tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

---




# Western blot - Anti-PRKAR2B antibody [EP2648] (ab75996)

All lanes:
Western blot - Anti-PRKAR2B antibody [EP2648] (ab75996) at 1/20000 dilution

Lane 1:
Fetal brain lysate at 10 µg

Lane 2:
Human testis lysate at 10 µg

Lane 3:
NIH/3T3 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 46 kDa

Observed band size: 46 kDa

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