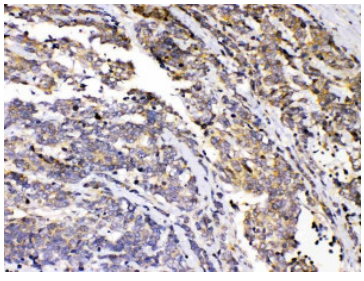
PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody (R32679)

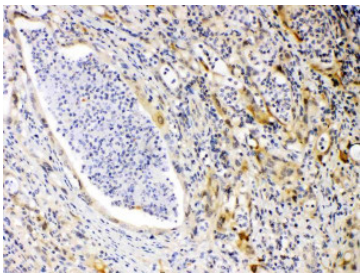
Catalog No.	Formulation	Size
R32679	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

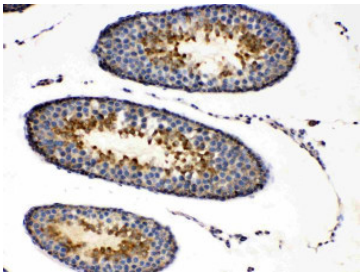
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P10644
Localization	Cytoplasmic, membranous
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody is available for research use only.



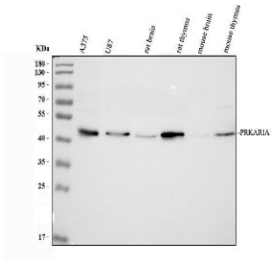
PRKAR1A Antibody Human Lung Cancer IHC. Immunohistochemical staining of FFPE human lung cancer tissue using PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer before incubation with PRKAR1A Antibody at 1 ug/ml. A biotinylated goat anti-rabbit secondary antibody with an SABC detection system and DAB chromogen was used for visualization. PRKAR1A staining is observed predominantly in the cytoplasm of tumor cells, consistent with its role as a key regulatory subunit of cyclic AMP-dependent protein kinase A. This PRKAR1A Antibody, also called Protein Kinase A Regulatory Subunit Antibody, is suitable for studies of cyclic AMP signaling, protein kinase A regulation, signal transduction, and tumor suppressor biology.



PRKAR1A Antibody Human Intestinal Cancer IHC. Immunohistochemical staining of FFPE human intestinal cancer tissue using PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer before incubation with PRKAR1A Antibody at 1 ug/ml. A biotinylated goat anti-rabbit secondary antibody with an SABC detection system and DAB chromogen was used for visualization. PRKAR1A staining is observed predominantly in the cytoplasm of tumor cells, consistent with its role as a key regulatory subunit of cyclic AMP-dependent protein kinase A. This PRKAR1A Antibody, also called Protein Kinase A Regulatory Subunit Antibody, is suitable for studies of cyclic AMP signaling, protein kinase A regulation, signal transduction, and tumor suppressor biology.



PRKAR1A Antibody Rat Testis IHC. Immunohistochemical staining of FFPE rat testis tissue using PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer before incubation with PRKAR1A Antibody at 1 ug/ml. A biotinylated goat anti-rabbit secondary antibody with an SABC detection system and DAB chromogen was used for visualization. PRKAR1A staining is observed predominantly in the cytoplasm of seminiferous tubule cells, consistent with its role in regulating cyclic AMP-dependent protein kinase A signaling during spermatogenesis and testicular function. This PRKAR1A Antibody, also called Protein Kinase A Regulatory Subunit Antibody, is suitable for studies of cyclic AMP signaling, protein kinase A regulation, and reproductive biology.



PRKAR1A Antibody Human, Rat and Mouse WB. Western blot analysis of human A375 (lane 1) and U87 (lane 2) whole cell lysates, rat brain (lane 3) and thymus (lane 4), and mouse brain (lane 5) and thymus (lane 6) tissue lysates using PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody at 0.5 ug/ml. A specific band is detected at approximately 43 kDa in all samples, consistent with the predicted molecular weight of PRKAR1A. This PRKAR1A Antibody, also called Protein Kinase A Regulatory Subunit Antibody, is suitable for studies of cyclic AMP signaling, protein kinase A regulation, signal transduction, and tumor suppressor biology.

Description

PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody recognizes PRKAR1A, the gene encoding the type I alpha regulatory subunit of cyclic AMP-dependent protein kinase A (PKA). PKA is a central mediator of cyclic AMP signaling and regulates diverse cellular processes including metabolism, proliferation, differentiation, gene expression, apoptosis, and hormone responsiveness. In its inactive state, PRKAR1A binds the catalytic subunits of PKA, preventing kinase activity. Binding of cyclic AMP to the regulatory subunits induces a conformational change that releases the catalytic subunits, allowing phosphorylation of downstream targets and activation of numerous signaling pathways. Through this mechanism, PRKAR1A serves as a critical regulator of intracellular signal transduction.

PRKAR1A is widely expressed and participates in signaling downstream of G protein-coupled receptors, endocrine hormones, neurotransmitters, and growth factors. By controlling PKA activation, PRKAR1A influences transcriptional regulation through proteins such as CREB while also modulating cell cycle progression, cytoskeletal organization, mitochondrial function, and metabolic homeostasis. The protein is found predominantly in the cytoplasm but can also associate with specific intracellular compartments through interactions with A-kinase anchoring proteins, enabling spatial regulation of PKA signaling. Tight control of PRKAR1A activity is essential for maintaining normal cellular responses to fluctuating cyclic AMP levels.

Loss-of-function mutations in PRKAR1A are the primary genetic cause of Carney complex, an inherited syndrome characterized by cardiac myxomas, endocrine tumors, skin pigmentation abnormalities, and multiple neoplasms. Altered PRKAR1A expression or dysregulated PKA signaling has also been implicated in adrenal tumors, thyroid neoplasia, pituitary disease, and several other cancers. Because of its central role in cyclic AMP signaling, PRKAR1A continues to

be an important target in studies of endocrinology, cardiovascular biology, tumor suppression, and signal transduction.

An PRKAR1A Antibody is a valuable tool for investigating protein kinase A regulation, cyclic AMP signaling, and intracellular kinase activity in normal and diseased tissues. Researchers frequently use Protein Kinase A Regulatory Subunit Antibody reagents to study signal transduction, endocrine biology, tumor suppression, cellular metabolism, and phosphorylation-dependent signaling pathways.

Explore our Cancer Marker Antibodies page for additional proteins involved in tumor suppression, signal transduction, and cancer progression.

Application Notes

Optimal dilution of the PRKAR1A Antibody / Protein Kinase A Regulatory Subunit Antibody should be determined by the researcher.

Immunogen

Amino acids E2-E81 from the human protein were used as the immunogen for the PRKAR1A antibody.

Storage

After reconstitution, the PRKAR1A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

PRKAR1A Antibody, Protein Kinase A Regulatory Subunit Antibody, Protein Kinase CAMP-Dependent Type I Regulatory Subunit Alpha Antibody, PKA Regulatory Subunit I Alpha Antibody, RI alpha Antibody

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