Datasheet for ABIN968875

anti-PRKAR2B antibody (pSer114)

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Overview

Quantity:	50 µg
Target:	PRKAR2B
Binding Specificity:	pSer114
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This PRKAR2B antibody is un-conjugated
Application:	Western Blotting (WB), Flow Cytometry (FACS), Fluorescence Microscopy (FM)

Product Details

Immunogen:	Phosphorylated Human PKA[RIIbeta] peptide Peptide
Clone:	47-PKA
Isotype:	IgG1 kappa
Cross-Reactivity:	Mouse (Murine), Rat (Rattus)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity

Product Details

	chromatography.

Target Details

Target:	PRKAR2B
Alternative Name:	PKA RIIbeta (PRKAR2B Products)
Background:	CAMP-dependent Protein Kinase (PKA) is composed of two distinct subunits: catalytic (C) and regulatory (R). Four regulatory subunits have been identified: RIalpha, RIbeta, RIIalpha, and RIIbeta. These subunits define type I and II PKAs. Following binding of cAMP, the regulatory subunits dissociate from the catalytic subunits, rendering the enzyme active. Type I and type II holoenzymes have three potential C subunits (Calpha, Cbeta, or Cgamma). Most cells, including T lymphocytes, express both type I and type II PKAs. RIIa expression is associated with cellular transformation, while RIIbeta expression correlates with mitotic arrest and cellular differentiation. Type II PKA can be distinguished by autophosphorylation of the R subunits, while type I PKA binds Mg/ATP with high affinity. The cAMP-dependent autophosphorylation of the human RIIbeta subunits occurs at serine 114 (S114). In addition to their enzyme regulatory activity, the RIIalpha and RIIbeta subunits determine the subcellular location of the holoenzymes via their interactions with specific intracellular anchoring proteins. The 47/PKA monoclonal antibody recognizes the phosphorylated S114 in the RIIbeta subunit of PKA. The orthologous phosphorylation site in mouse and rat PKA[RIIbeta] is S112.
Molecular Weight:	53 kDa
Pathways:	Hedgehog Signaling, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Myometrial Relaxation and Contraction, M Phase, G-protein mediated Events, Interaction of EGFR with phospholipase C-gamma, SARS-CoV-2 Protein Interactome, The Global Phosphorylation Landscape of SARS-CoV-2 Infection

Application Details

Application Notes:	Methanol Procedure for a 96 well plate: Remove media from wells. Add 100 µl/well fresh 3.7% Formaldehyde in PBS. Incubate for 10 minutes at room temperature (RT). Flick out and add 100 µl/well 90% methanol. Incubate for 5 minutes at RT. Flick out and wash twice with PBS. Flick out PBS and add 100 µl/well blocking buffer (3% FBS in PBS). Incubate for 30 minutes at RT. Flick out and add diluted antibody (diluted in blocking buffer). Incubate for 1 hour at RT. Wash three times with PBS. Flick out PBS and add second step reagent. Incubate for 1 hour at RT. Wash three times with PBS.

Application Details

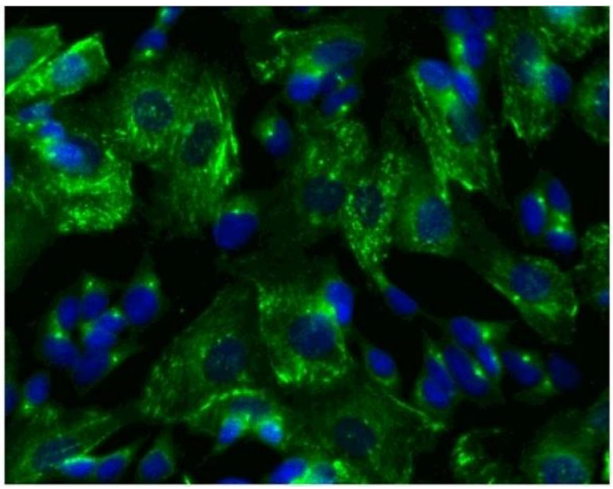
	Triton-X 100 Procedure for a 96 well plate: Remove media from wells. Add 100 µl/well fresh 3.7% Formaldehyde in PBS. Incubate for 10 minutes at room temperature (RT). Flick out and add 100 µl/well 0.1% Triton-X 100. Incubate for 5 minutes at RT. Flick out and wash twice with PBS. Flick out PBS and add 100 µl/well blocking buffer (3% FBS in PBS). Incubate for 30 minutes at RT. Flick out and add diluted antibody (diluted in blocking buffer). Incubate for 1 hour at RT. Flick out and wash three times with PBS. Flick out and add second step reagent. Incubate for 1 hour at RT. Flick out and wash three times with PBS.
Comment:	Related Products: ABIN968545
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	250 µg/mL
Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store undiluted at -20° C.

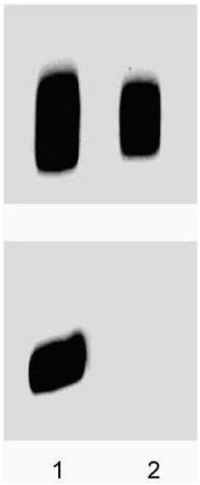
Publications

Product cited in:	Budillon, Cereseto, Kondrashin, Nesterova, Merlo, Clair, Cho-Chung: "Point mutation of the autophosphorylation site or in the nuclear location signal causes protein kinase A RII beta regulatory subunit to lose its ability to revert transformed fibroblasts." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 92, Issue 23, pp. 10634-8, (1995) (PubMed). Keryer, Luo, Cavadore, Erlichman, Bornens: "Phosphorylation of the regulatory subunit of type II beta cAMP-dependent protein kinase by cyclin B/p34cdc2 kinase impairs its binding to microtubule-associated protein 2." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 90, Issue 12, pp. 5418-22, (1993) (PubMed).



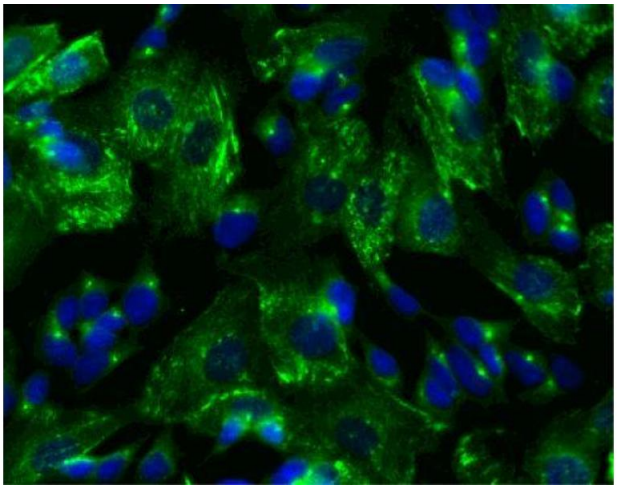
Immunofluorescence

Image 1.



Western Blotting

Image 2. Westen Blot: Rat Cerebrum lysate was either left untreated (lane 1) or treated (lane 2) with 150U/ml of lambda phosphatase for 1 hour at 37°C. The top panel was probed with PKA RIIbeta (ABIN968072). The bottom panel was probed with anti-PKA RIIbeta (pS114). Recommended to use antibody in range of 1:1000 dilution.



Immunofluorescence

Image 3. Immunofluorescent staining of SK-N-SH cells. Cells were seeded in a 384 well collagen coated Microplates at ~ 8,000 cells per well. After overnight incubation, cells were stained using the methanol fix/perm protocol and the anti- PKARIIb p S114 antibody. The second step reagent was Alexa Fluor® 488 goat anti mouse Ig (Invitrogen). The image was taken on a Pathway 855 or 435 imager using a 20x objective. This antibody also stained SH-SY5Y, and C6 cells using both the Triton X100 and methanol fix/perm protocols.

Please check the product details page for more images. Overall 4 images are available for ABIN968875.