BOSTER
antibody and ELISA experts
BOSTER BIOLOGICAL TECHNOLOGY
Building C21, 3rd to 5th Floors, Optics Valley Biopharmaceutical Accelerator,
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Product datasheet

# Anti-CaMKII Alpha/CAMK2A Antibody

**Catalog Number: *A03241-2***

## Basic Information

| | |
|---|---|
| **Product Name** | Anti-CaMKII Alpha/CAMK2A Antibody |
| **Gene Name** | CAMK2A |
| **Source** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Species Reactivity** | human, mouse, rat |
| **Tested Application** | WB, IHC, IF, ICC/IF, FCM, ELISA |
| **Contents** | 500 ug/ml antibody with PBS, 0.02% NaN3, 1 mg/ml BSA and 50% glycerol. |
| **Immunogen** | E.coli-derived human CaMKII alpha/CAMK2A recombinant protein (Position: M1-H478). |
| **Concentration** | 500 ug/ml |
| **Purification** | Immunogen affinity purified. |
| **Observed MW** | 54 kDa |
| **Dilution Ratios** | Western blot (WB): 1:500-2000<br>Immunohistochemistry (IHC): 1:50-400<br>Immunofluorescence (IF) : 1:50-400<br>Immunocytochemistry/Immunofluorescence (ICC/IF): 1:50-400<br>Flow Cytometry (Fixed): 1:50-200<br>Enzyme linked immunosorbent assay (ELISA): 1:100-1000<br>(Boiling the paraffin sections in 10mM citrate buffer,pH6.0,or PH8.0 EDTA repair liquid for 20 mins is required for the staining of formalin/paraffin sections.) Optimal working dilutions must be determined by end user. |

## Storage

12 months from date of receipt，-20℃ as supplied.

## Background Information

Calcium/calmodulin-dependent protein kinase type II subunit alpha (CAMKIIα), a.k.a. Ca2+/calmodulin-dependent protein kinase II alpha, is a protein kinase (i.e., an enzyme which phosphorylates proteins) that in humans is encoded by the CAMK2A gene. It is mapped to 5q32. The product of this gene belongs to the serine/threonine protein kinases family, and to the Ca(2+)/calmodulin-dependent protein kinases subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. This calcium calmodulin-dependent protein kinase is composed of four

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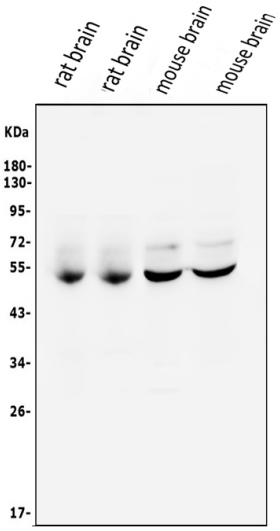
different chains: alpha, beta, gamma, and delta. The alpha chain encoded by this gene is required for hippocampal long-term potentiation (LTP) and spatial learning. In addition to its calcium-calmodulin (CaM)-dependent activity, this protein can undergo autophosphorylation, resulting in CaM-independent activity. Several transcript variants encoding distinct isoforms have been identified for this gene.

## Reference

Anti-CaMKII Alpha/CAMK2A Antibody被引用在2文献中。

## Selected Validation Data




Western blot analysis of CaMKII Alpha/CAMK2A using anti-CaMKII Alpha/CAMK2A antibody (A03241-2). The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: Rat brain tissue lysates,
Lane 2: Rat brain tissue lysates,
Lane 3: Mouse brain tissue lysates,
Lane 4: Mouse brain tissue lysates.
After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-CaMKII Alpha/CAMK2A antigen affinity purified polyclonal antibody (A03241-2) at a dilution of 1:1000 and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1197). A specific band was detected for CaMKII Alpha/CAMK2A at approximately 54 kDa. The expected band size for CaMKII Alpha/CAMK2A is at 54 kDa.

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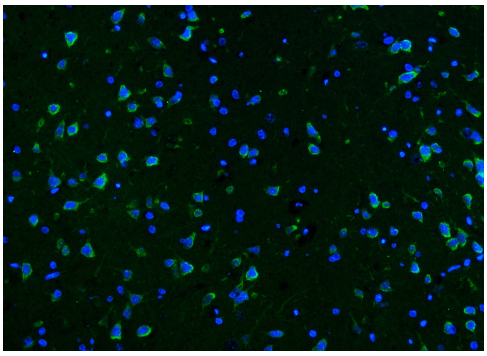
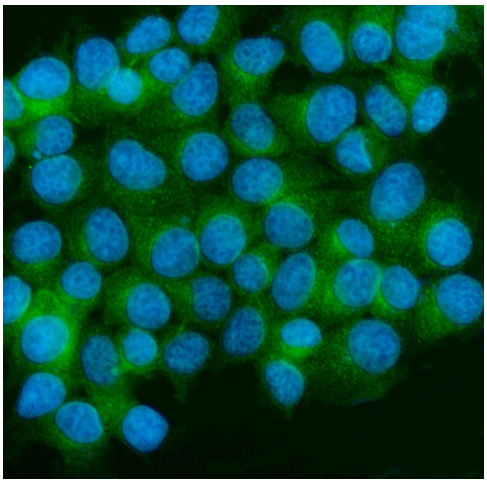
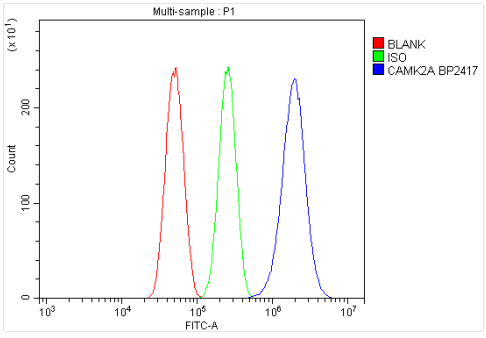


IF analysis using anti- CAMK2A antibody (A03241-2). detected in paraffin-embedded section of rat brain tissue. The tissue section were stained using the Fluoro488-conjugated Anti-rabbit IgG Secondary Antibody (green) (Catalog # BA1127) and counterstained with DAPI (blue).



ICC/IF analysis of CaMKII Alpha/CAMK2A using anti-CaMKII Alpha/CAMK2A antibody (A03241-2).
CaMKII Alpha/CAMK2A was detected in an immunocytochemical section of MCF-7 cells. The section was incubated with rabbit anti-CaMKII Alpha/CAMK2A Antibody (A03241-2) at a dilution of 1:100. Fluoro488 Conjugated Goat Anti-Rabbit IgG (Green) (Catalog # BA1127) was used as secondary antibody. The section was counterstained with DAPI (Catalog # AR1176) (Blue).




Flow Cytometry analysis of U87 cells using anti-CaMKII Alpha/CAMK2A antibody (A03241-2).
Overlay histogram showing U87 cells stained with A03241-2 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CaMKII Alpha/CAMK2A Antibody (A03241-2) at 1:100 dilution for 30 min at 20°C. Fluoro488 conjugated goat anti-rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG at 1:100 dilution used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.