

## Basic Information

<b>Product Name</b>	Anti-CaMKII Alpha/CAMK2A Antibody
<b>Gene Name</b>	CAMK2A
<b>Source</b>	Rabbit
<b>Isotype</b>	IgG
<b>Species Reactivity</b>	mouse, rat
<b>Tested Application</b>	WB, IP, FCM
<b>Contents</b>	500 ug/ml; Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
<b>Immunogen</b>	A synthesized peptide derived from human CaMKII alpha
<b>concentration</b>	500 ug/ml
<b>Purification</b>	Affinity-chromatography
<b>Observed MW</b>	54KD
<b>Dilution Ratios</b>	Western blot (WB): 1:500-2000 Immunoprecipitation: 1:20 Flow cytometry (FCM): 1:20

## Storage

12 months from date of receipt, -20°C as supplied. 6 months 2 to 8°C after reconstitution. Avoid repeated freezing and thawing.

## Background Information

Calcium/calmodulin-dependent protein kinase type II subunit alpha (CaMKII $\alpha$ ), a.k.a. Ca<sup>2+</sup>/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 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.

## Selected Validation Data

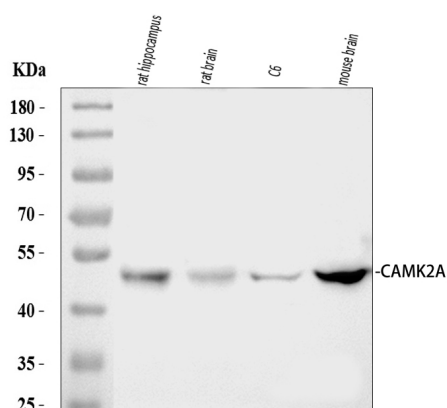


Figure 1. Western blot analysis of anti- CAMK2A antibody (BM5046). The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat hippocampus tissue, Lane 2: rat brain tissue, Lane 3: C6 whole cell, Lane 4: mouse brain tissue. Use mouse anti- CAMK2A 1:1000, probed with a goat anti-mouse IgG-HRP secondary antibody. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002). A specific band was detected for CAMK2A at approximately 52KD. The expected band size for CAMK2A is at 54KD.