

Rabbit CaMK4 Polyclonal Antibody | anti-CaMK4 antibody

Phospho-CaMK4 (Thr196/200) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321748	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CaMK4; Polyclonal Antibody; Phospho-CaMK4 (Thr196/200) Antibody; Brain Ca(2+) calmodulin dependent protein kinase type 4; Brain Ca(2+) calmodulin dependent protein kinase type IV; Brain Ca++-calmodulin dependent protein kinase type IV; Calcium/calmodulin dependent protein kinase type 4 catalytic chain; Calcium/calmodulin dependent protein kinase type IV catalytic chain; Calcium/calmodulin dependent protein kinase IV; Calcium/calmodulin dependent protein kinase type IV; Calcium/calmodulin-dependent protein kinase type IV; CAM kinase 4; CAM kinase GR; CAM kinase IV; CAM kinase-GR; CaMK 4; CAMK GR; CaMK IV; Camk4; CaMKGR; IV; KCC4_HUMAN; MGC36771; anti-CaMK4 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-CaMK4 (Thr196/200) antibody detects endogenous levels of CaMK4 only when phosphorylated at Threonine 196/200
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	473
Applicable Applications for anti-CaMK4 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CaMK4 around the phosphorylation site of Threonine 196/200
Subcellular Location	Cytoplasm. Nucleus. Substantial localization in certain neuronal nuclei. In spermatids associated with chromatin and nuclear matrix.
Tissue Specificity	Expressed in brain, thymus, CD4 T-cells, testis and epithelial ovarian cancer tissue.
Predicted Cross Reactivity	Pig, Zebrafish, Horse, Sheep, Dog, Chicken, Xenopus
Similarity	Pig (100%), Zebrafish (100%), Horse (100%), Sheep (100%), Dog (100%), Chicken (100%), Xenopus (100%)
Conjugation	Unconjugated
Epitope	Phospho Thr196, Phospho Thr200
Important	For western blot, incubate membrane with diluted primary Ab in 5% w/v milk , 1X TBS, 0.1% Tween@20 at 4°C with gentle shaking, overnight.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



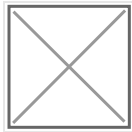
IF (Immunofluorescence)

AAA321748 staining Hela cells(20min of 30uM Forskolin treatment) by IF/ICC. The samples were fixed with PFA and permeabilized in 0.1% Triton X-100,then blocked in 10% serum for 45 minutes at 25°C. Samples were then incubated with primary Ab(AAA321748) and mouse anti-beta tubulin Ab for 1 hour at 37°C. An AlexaFluor594 conjugated goat anti-rabbit IgG(H+L) Ab(Red) and an AlexaFluor488 conjugated goat anti-mouse IgG(H+L) Ab(Green) were used as the secondary Ab. The nuclear counter stain is DAPI(blue).



IHC (Immunohistochemistry)

AAA321748 at 1/100 staining human brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

AAA321748 at 1/100 staining Mouse testis tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western Blot analysis of Phospho-CaMK4 (Thr200) Antibody expression in H2O2 treated K562 cells lysates.The lane on the right was treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CaMK4 antibody

Description: The product of this gene belongs to the serine/threonine protein kinase family, and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. This enzyme is a multifunctional serine/threonine protein kinase with limited tissue distribution, that has been implicated in transcriptional regulation in lymphocytes, neurons and male germ cells.

Function: Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK4 signaling cascade and regulates, mainly by phosphorylation, the activity of several transcription activators, such as CREB1, MEF2D, JUN and RORA, which play pivotal roles in immune response, inflammation, and memory consolidation. In the thymus, regulates the CD4+/CD8+ double positive thymocytes selection threshold during T-cell ontogeny. In CD4 memory T-cells, is required to link T-cell antigen receptor (TCR) signaling to the production of IL2, IFNG and IL4 (through the regulation of CREB and MEF2). Regulates the differentiation and survival phases of osteoclasts and dendritic cells (DCs). Mediates DCs survival by linking TLR4 and the regulation of temporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to memory consolidation and long term potentiation (LTP) in the hippocampus. Can activate the MAP kinases MAPK1/ERK2, MAPK8/JNK1 and MAPK14/p38 and stimulate transcription through the phosphorylation of ELK1 and ATF2. Can also phosphorylate in vitro CREBBP, PRM2, MEF2A and STMN1/OP18.

Subunit Structure: Monomer (By similarity). Interacts with protein phosphatase 2A (PPP2CA/PPP2CB); the interaction is mutually exclusive with binding to Ca2+/calmodulin.

Post-translational Modifications: Phosphorylated by CaMKK1 and CaMKK2 on Thr-200. Dephosphorylated by protein phosphatase 2A. Autophosphorylated on Ser-12 and Ser-13. Glycosylation at Ser-189 modulates the phosphorylation of CaMK4 at Thr-200 and negatively regulates its activity toward CREB1 in basal conditions and during early ionomycin stimulation.

Similarity: The autoinhibitory domain overlaps with the calmodulin binding region and interacts in the inactive folded state with the catalytic domain as a pseudosubstrate. Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	1020738596
NCBI GeneID	814
NCBI Accession #	NP_001310303.1
NCBI GenBank Nucleotide #	NM_001323374.1
UniProt Accession #	Q16566; D3DSZ7

Molecular Weight	Observed: 60 kDa Predicted: 52 kDa
NCBI Official Full Name	calcium/calmodulin-dependent protein kinase type IV isoform 1
NCBI Official Synonym Full Names	calcium/calmodulin dependent protein kinase IV
NCBI Official Symbol	CAMK4
NCBI Official Synonym Symbols	caMK; CaMK IV; CaMK-GR
NCBI Protein Information	calcium/calmodulin-dependent protein kinase type IV
UniProt Protein Name	Calcium/calmodulin-dependent protein kinase type IV
UniProt Gene Name	CAMK4
UniProt Synonym Gene Names	CAMK; CAMK-GR; CAMKIV; CaMK IV

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/camk4-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321748>