

## CaMKIV (Phospho Thr200) Rabbit pAb

CatalogNo: YP0043 **Orthogonal Validated** 

### Key Features

#### Host Species

- Rabbit

#### Reactivity

- Human, Mouse, Rat

#### Applications

- WB, IHC, IF, ELISA

#### MW

- 60kD (Observed)

#### Isotype

- IgG

### Storage

**Storage\*** -15°C to -25°C/1 year (Do not lower than -25°C)

**Formulation** Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

### Recommended Dilution Ratios

**WB 1:500-1:2000**

**IHC 1:100-1:300**

**IF 1:200-1:1000**

**ELISA 1:40000**

**Not yet tested in other applications.**

### Basic Information

**Clonality** Polyclonal

### Immunogen Information

**Immunogen** The antiserum was produced against synthesized peptide derived from human CaMK4 around the phosphorylation site of Thr196/200. AA range:166-215

## Specificity

Phospho-CaMKIV (T200) Polyclonal Antibody detects endogenous levels of CaMKIV protein only when phosphorylated at T200. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):MKtVC

## Target Information

**Gene name** CAMK4

**Protein Name** Calcium/calmodulin-dependent protein kinase type IV

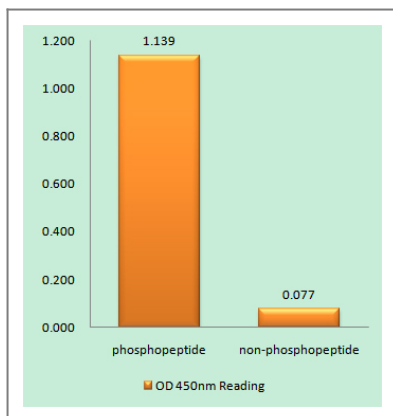
Organism	Gene ID	UniProt ID
Human	<a href="#">814</a> ;	<a href="#">Q16566</a> ;
Mouse		<a href="#">P08414</a> ;
Rat	<a href="#">25050</a> ;	<a href="#">P13234</a> ;

**Cellular Localization** Cytoplasm. Nucleus. Localized in hippocampal neuron nuclei. In spermatids , associated with chromatin and nuclear matrix (By similarity) . .

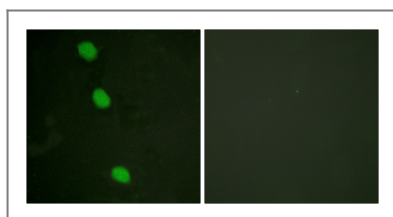
**Tissue specificity** Expressed in brain , thymus , CD4 T-cells , testis and epithelial ovarian cancer tissue.

**Function** Catalytic activity:ATP + a protein = ADP + a phosphoprotein. ,enzyme regulation:Activated by Ca (2+) /calmodulin. Binding of calmodulin may release intrasteric autoinhibition. Must be phosphorylated to be maximally active. Phosphorylated by CAMKK1 or CAMKK2. Autophosphorylation of the N-terminus is required for full activation. In part , activity is independent on Ca (2+) /calmodulin and autophosphorylation of Ser-336 allows to switch to a Ca (2+) /calmodulin-independent state (By similarity) . Probably inactivated by serine/threonine protein phosphatase 2A. ,Function:Calcium/calmodulin-dependent protein kinase belonging to a proposed calcium-triggered signaling cascade. May be involved in transcriptional regulation. May be involved in regulation of microtubule dynamics. In vitro , phosphorylates CREB1 , CREBBP , PRM2 , MEF2A , MEF2D and STMN1/OP18. May be involved in spermatogenesis. May play a role in the consolidation/retention of hippocampus-dependent long-term memory. ,PTM:Autophosphorylated and phosphorylated by CAMKK1 and CAMKK2 (By similarity) . Dephosphorylated by serine/threonine protein phosphatase 2A , probably on Thr-200. ,similarity:Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. ,similarity:Contains 1 protein kinase domain. ,subcellular location:Substantial localization in certain neuronal nuclei. In spermatids associated with chromatin and nuclear matrix. ,subunit:Monomer (By similarity) . Interacts with serine/threonine protein phosphatase 2A catalytic subunit , PPP2CA or PPP2CB. The interaction with PP2CA or PP2CB is mutually exclusive with binding to Ca (2+) /calmodulin. ,tissue specificity:Expressed in epithelial ovarian cancer tissue. ,

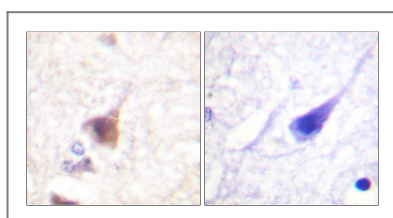
## Validation Data



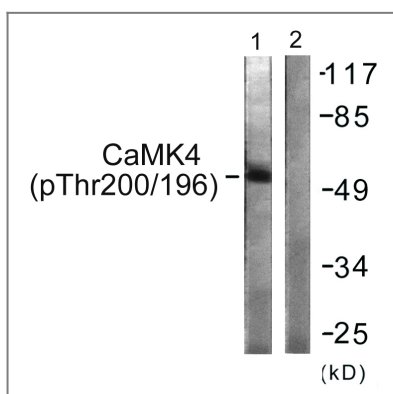
Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using CaMK4 (Phospho-Thr196/200) Antibody



Immunofluorescence analysis of HeLa cells, using CaMK4 (Phospho-Thr196/200) Antibody. The picture on the right is blocked with the phospho peptide.



Immunohistochemistry analysis of paraffin-embedded human brain, using CaMK4 (Phospho-Thr196/200) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from K562 cells treated with H<sub>2</sub>O<sub>2</sub> 100uM 30', using CaMK4 (Phospho-Thr196/200) Antibody. The lane on the right is blocked with the phospho peptide.

## Contact information

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