

DATASHEET

CaMK1 alpha (Phospho-T177) Rabbit Polyclonal Antibody

CAT. NO. APA09146

KEY FEATURES

| | | | |
|---------------|---|---------------|--------------|
| Target | CaMK1 alpha (Phospho-T177) | Source / Host | Rabbit |
| Reactivity | Human, Mouse, Rat | Clonality | Polyclonal |
| Applications | WB, IHC, IF/ICC | Conjugation | Unconjugated |
| Form / Buffer | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide. | Storage | at-20°C |

BACKGROUND

Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK1 signaling cascade and, upon calcium influx, regulates transcription activators activity, cell cycle, hormone production, cell differentiation, actin filament organization and neurite outgrowth. Recognizes the substrate consensus sequence [MVLIF]-x-R-x(2)-[ST]-x(3)-[MVLIF]. Regulates axonal extension and growth cone motility in hippocampal and cerebellar nerve cells. Upon NMDA receptor-mediated Ca(2+) elevation, promotes dendritic growth in hippocampal neurons and is essential in synapses for full long-term potentiation (LTP) and ERK2-dependent translational activation.

APPLICATION

To ensure optimal assay performance, AREX recommends conducting reagent titration tailored to each testing system for optimal detection results.

| | |
|--------|----------------|
| WB | 1:500 - 1:1000 |
| IHC | 1:100 - 1:200 |
| IF/ICC | 1:100 - 1:500 |

*Results are sample-specific. Please refer to your local assay conditions and test parameters for reference.

PRODUCT OVERVIEW

| | |
|-------------------|---|
| Description | Rabbit polyclonal antibody to CaMK1 alpha (Phospho-T177) |
| Specificity | Recognizes endogenous levels of CaMK1 alpha protein only when phosphorylated at T177. |
| Antibody Type | Primary antibody |
| Immunogen | KLH-conjugated synthetic phosphopeptide corresponding to residues surrounding T177 of human CaMK1 alpha protein. The exact sequence is proprietary. |
| Purification | The antibody was purified by immunogen affinity chromatography. |
| Molecular Weight | Predicted: 41 kD; Observed: 41 kD |
| Form/Buffer | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide. |
| Alternative Names | Calcium/calmodulin-dependent protein kinase type 1; CaM kinase I; CaM-KI; CaM kinase I alpha; CaMKI-alpha |
| Gene Symbol | CAMK1 |
| Entrez Gene | 8536(Human); 52163(Mouse); 171503(Rat) |
| SwissProt | Q14012(Human); Q91YS8(Mouse); Q63450(Rat) |

*AREX continuously optimizes our products. Webpage content may not reflect the latest updates. For inquiries, please contact info@arexbio.com or your local distributor.

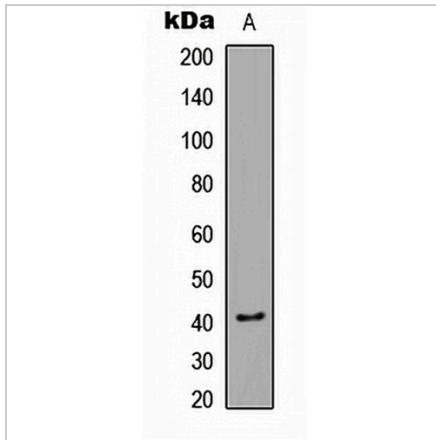
*Clone Number, Reactivity, Source/Host and Clonality can be found in the product name and Key Features section above.

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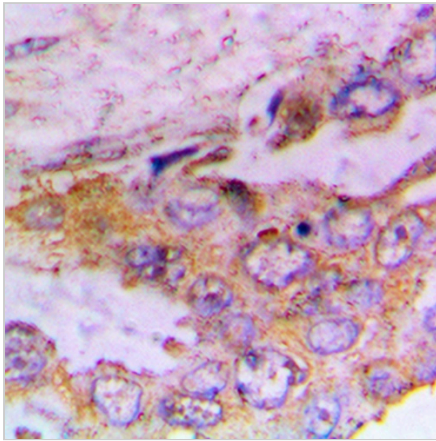
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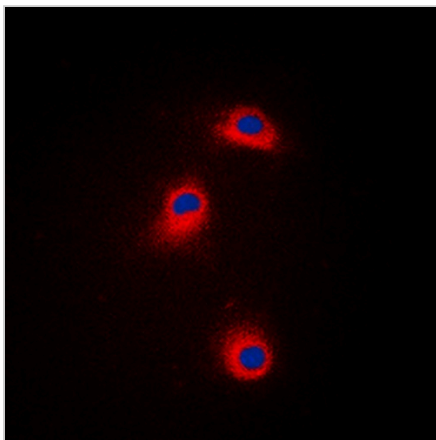
DATA



Western blot analysis of CaMK1 alpha (Phospho-T177) expression in Jurkat Insulin-treated (A) whole cell lysates. (Predicted band size: 41 kD; Observed band size: 41 kD)



Immunohistochemical analysis of CaMK1 alpha (Phospho-T177) staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of CaMK1 alpha (Phospho-T177) staining in Jurkat cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

STORAGE

Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.

NOTE

For Research Use Only. Not for diagnostic, therapeutics, prophylactic or in vivo use.