

#3365 Store at -20°C

CamKI- δ Antibody



✓ 100 μ l
(10 Western mini-blot)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

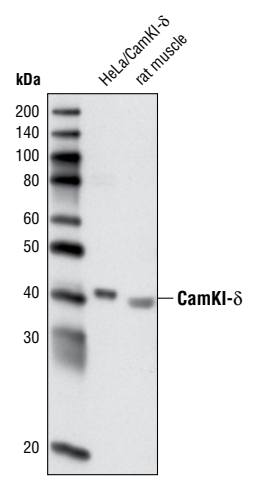
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, R, (M)	43 kDa	Rabbit**

Background: The Ca²⁺/calmodulin-dependent kinase (CaMK) family, which is activated in response to elevation of intracellular Ca²⁺, includes CaMKI, CaMKII, CaMKIV and CaMK-kinases (CaMKKs) (1,2). CaMKI is a downstream substrate of CaMKK and has 4 isoforms: CaMKI- α , CaMKI- β , CaMKI- γ and CaMKI- δ . CaMKI is present in most cell types and may be involved in cellular functions including transcription, cytoskeletal organization, axonal growth cone motility and long-term potentiation in neurons (3-6). CaMKII is also ubiquitously expressed in most cell types. While muscular CaMKII has been linked to activation of mitochondrial biogenesis in muscle hypertrophy response, neuronal CaMKII regulates important neuronal functions, including neurotransmitter synthesis, neurotransmitter release, modulation of ion channel activity, cellular transport, cell morphology and neurite extension, synaptic plasticity, learning and memory and gene expression (7). Like CaMKI, CaMKIV is also a substrate of CaMKKs and is primarily restricted to the nucleus of neurons. CaMKIV regulates gene transcription in neurons through phosphorylation of transcription factors such as CREB and is required for fear memory (8).

CamKI- δ translocates to the nucleus upon intracellular Ca²⁺ influx and is activated through phosphorylation of Thr180 by CamKK (9).

Specificity/Sensitivity: CamKI- δ Antibody detects endogenous levels of total CamKI- δ protein. This antibody may detect other isoforms of CamKI.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to human CamKI- δ . Antibodies are purified by peptide affinity chromatography.



Western blot analysis of extracts from HeLa cells, transfected with a construct overexpressing CamKI- δ , and rat skeletal muscle using CamKI- δ Antibody.

Background References:

- (1) Chin, E.R. (2004) *Proc. Nutr. Soc.* 63, 279–286.
- (2) Mizuno, K. and Giese, K.P. (2005) *J. Pharmacol. Sci.* 98, 191–197.
- (3) Wayman, G.A. et al. (2004) *J. Neurosci.* 24, 3786–3794.
- (4) Gardner, H.P. et al. (2000) *Genomics* 63, 279–288.
- (5) Verploegen, S. et al. (2005) *Blood* 106, 1076–1083.
- (6) Takemoto-Kimura, S. et al. (2003) *J. Biol. Chem.* 278, 18597–18605.
- (7) Yamauchi, T. (2005) *Biol. Pharm. Bull.* 28, 1342–1354.
- (8) Wei, F. et al. (2002) *Nat. Neurosci.* 5, 573–579.
- (9) Sakagami, H. et al. (2005) *Eur. J. Neurosci.* 22, 2697–2707.

Entrez-Gene ID #57118
Swiss-Prot Acc. #Q8IU85

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by Western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Companion Products:

- Phospho-CaMKII (Tyr231) Antibody #3356
- Phospho-CaMKII (Thr286) Antibody #3361
- CaMKII- α Antibody #3357
- CaMKII pan Antibody #3362
- Phospho-CREB (Ser133) (87G3) Rabbit mAb #9198
- CREB (48H2) Rabbit mAb #9197
- Tris Buffered Saline with Tween 20 (TBST - 10X) #9997
- BSA #9998
- Nonfat Dry Milk #9999
- Phototope[®]-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071
- Anti-rabbit IgG, HRP-linked Antibody #7074
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- 20X LumiGLO[®] Reagent and 20X Peroxide #7003

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.