Revision 1

#4436 Store at -20C

CaMKII (pan) (D11A10) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	60, 50	Rabbit IgG	#Q13554, #Q13557, #Q13555, #Q9UQM7	816, 817, 818, 815

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

CaMKII (pan) (D11A10) Rabbit mAb detects endogenous levels of total CaMKII protein. The peptide sequence used as the antigen is 100% conserved between CaMKII-alpha, gamma and delta, and 88% conserved in CaMKII-beta.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide surrounding Val184 of human CaMKII-alpha.

Background

CaMKII is an important member of the calcium/calmodulin-activated protein kinase family, functioning in neural synaptic stimulation and T cell receptor signaling (1,2). CaMKII has catalytic and regulatory domains. Ca2+/calmodulin binding to the CaMKII regulatory domain relieves autoinhibition and activates the kinase (3). The activated CaMKII further autophosphorylates at Thr286 to render the kinase constitutively active (3). The threonine phosphorylation state of CaMKII can be regulated through PP1/PKA. PP1 (protein phosphatase 1) dephosphorylates phospho-CaMKII at Thr286. PKA (protein kinase A) prevents phospho-CaMKII (Thr286) dephosphorylation through an inhibitory effect on PP1 (4).

Background References

1. Hughes, K. et al. (2001) *J Biol Chem* 276, 36008-13.
2. Barria, A. et al. (1997) *Science* 276, 2042-5.
3. Barkai, U. et al. (2000) *Mol Endocrinol* 14, 554-63.
4. Makhinson, M. et al. (1999) *J Neurosci* 19, 2500-10.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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