

#3361 Store at -20°C

Phospho-CaMKII (Thr286) Antibody

100 µl
 (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	50 kDa	Rabbit**

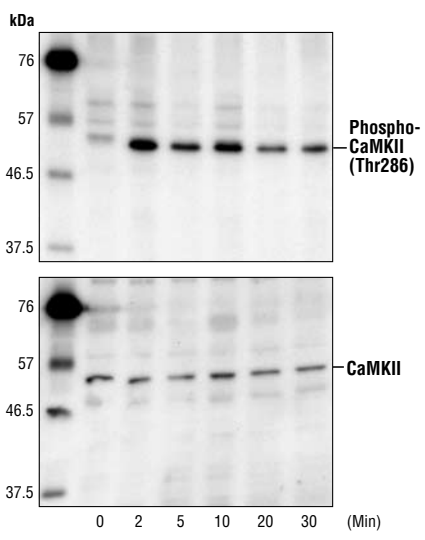
Background: CaMKII is an important member of calcium/calmodulin-activated protein kinase family, functioning in neural synaptic stimulation and T-cell receptor signaling (1,2). CaMKII has catalytic and regulatory domains. The binding of Ca²⁺/calmodulin to its regulatory domain releases its autoinhibitory effect and activates the kinase (3). The activated CaMKII further autophosphorylates at threonine 286 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 this dephosphorylation through its inhibitory effect on PP1 (4).

Specificity/Sensitivity: Phospho-CaMKII (Thr286) Antibody detects endogenous levels of CaMKII only when phosphorylated at threonine 286.

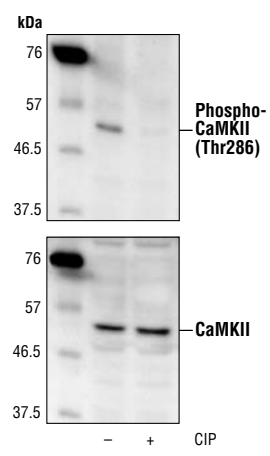
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr286 of human CaMKII. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Hughes, K. et al. (2001) *J. Biol. Chem.* 276, 36008–36013.
- (2) Barria, A. et al. (1997) *Science* 276, 2042–2045.
- (3) Means, A.R. (2000) *Mol. Endocrinol.* 14, 4–12.
- (4) Makhinson, M. et al. (1999) *J. Neurosci.* 19, 2500–2510.



Western blot analysis of extracts from Neuro2A cells treated with calcium ionophore (A23187, 2 µM) after a 20-minute preincubation with forskolin (30 µM), using Phospho-CaMKII (Thr286) Antibody (upper) or CaMKII Antibody #3362 (lower).



Western blot analysis of extracts from Neuro2A cells, untreated or calf intestinal phosphatase (CIP)-treated, using Phospho-CaMKII (Thr286) Antibody (upper) or CaMKII Antibody #3362 (lower).

Entrez-Gene ID #815, 816, 817
Swiss-Prot Acc. #Q9UQM7, Q13554, Q13557

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

***Species cross-reactivity is determined by western blot.**

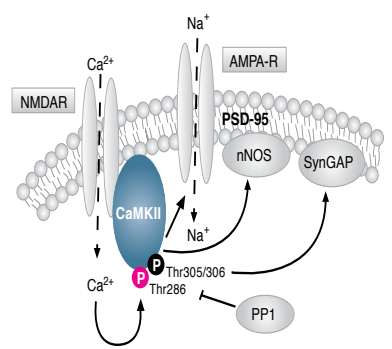
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000

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

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—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.