

Phospho-CaMKII (Thr286) (D21E4) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 60, 50	Source/Isotype: Rabbit IgG	UniProt ID: #Q13554, #Q13557, #Q13555, #Q9UQM7	Entrez-Gene Id: 816, 817, 818, 815
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Product Usage Information	Application Western Blotting	Dilution 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	Phospho-CaMKII (Thr286) (D21E4) Rabbit mAb recognizes endogenous levels of CamKII-α protein only when phosphorylated at Thr286. This antibody also recognizes endogenous levels of CamKII-β and CamKII-γ protein only when phosphorylated at Thr287.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr287 of human CamKII-β protein.	
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. Ca ²⁺ /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	<ol style="list-style-type: none"> Hughes, K. et al. (2001) <i>J Biol Chem</i> 276, 36008-13. Barria, A. et al. (1997) <i>Science</i> 276, 2042-5. Barkai, U. et al. (2000) <i>Mol Endocrinol</i> 14, 554-63. Makhinson, M. et al. (1999) <i>J Neurosci</i> 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	W: Western Blotting	
Cross-Reactivity Key	H: Human M: Mouse R: Rat	
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