

#3365 Store at -20°C

CaMKI-δ Antibody



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

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H R	Endogenous	43	Rabbit	#Q8IU85	57118

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	CaMKI-δ Antibody detects endogenous levels of total CamKI-δ protein. This antibody may detect other isoforms of CaMKI.	
Species predicted to react based on 100% sequence homology:	Mouse	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human CaMKI-δ. Antibodies are purified by peptide affinity chromatography.	
Background	<p>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).</p> <p>CaMKI-δ translocates to the nucleus upon intracellular Ca²⁺ influx and is activated through phosphorylation of Thr180 by CaMKK (9).</p>	
Background References	<ol style="list-style-type: none"> Chin, E.R. (2004) <i>Proc. Nutr. Soc.</i> 63, 279-286. Mizuno, K. and Giese, K.P. (2005) <i>J. Pharmacol. Sci.</i> 98, 191-197. Wayman, G.A. et al. (2004) <i>J. Neurosci.</i> 24, 3786-3794. Gardner, H.P. et al. (2000) <i>Genomics</i> 63, 279-288. Verploegen, S. et al. (2005) <i>Blood</i> 106, 1076-1083. Takemoto-Kimura, S. et al. (2003) <i>J. Biol. Chem.</i> 278, 18597-18605. Yamauchi, T. (2005) <i>Biol. Pharm. Bull.</i> 28, 1342-1354. Wei, F. et al. (2002) <i>Nat. Neurosci.</i> 5, 573-579. Sakagami, H. et al. (2005) <i>Eur. J. Neurosci.</i> 22, 2697-2707. 	

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

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.
All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.