

## DESCRIPTION

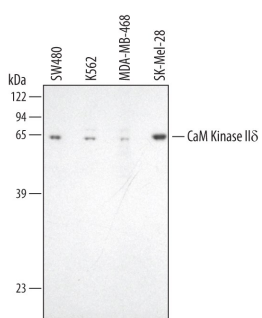
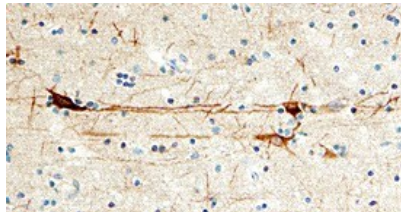
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CaM Kinase II $\delta$ isoforms. No cross-reactivity with recombinant human CaM Kinase II $\alpha$ , CaM Kinase II $\beta$ , or CaM Kinase II $\gamma$ is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human CaM Kinase II $\delta$ Ala402-Lys478 Accession # Q13557
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	2 $\mu$ g/mL	See Below
<b>Immunohistochemistry</b>	5-15 $\mu$ g/mL	See Below

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human CaM Kinase II<math>\delta</math> by Western Blot.</b> Western blot shows lysates of SW480 human colorectal adenocarcinoma cell line, K562 human chronic myelogenous leukemia cell line, MDA-MB-468 human breast cancer cell line, and SK-Mel-28 human malignant melanoma cell line. PVDF membrane was probed with 2 <math>\mu</math>g/mL of Sheep Anti-Human CaM Kinase II<math>\delta</math> Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4176) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for CaM Kinase II<math>\delta</math> at approximately 56 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p><b>Immunohistochemistry</b></p>  <p><b>CaM Kinase II<math>\delta</math> in Human Brain.</b> CaM Kinase II<math>\delta</math> was detected in immersion fixed paraffin-embedded sections of human brain (cerebral cortex) using 15 <math>\mu</math>g/mL Sheep Anti-Human CaM Kinase II<math>\delta</math> Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4176) overnight at 4 °C. Tissue was stained with the Anti-Sheep HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Calcium/calmodulin-dependent protein kinase type II (CaMKII) belongs to a family of multifunctional serine/threonine kinases activated in response to increases in intracellular calcium. There are 4 CaMKII isozymes,  $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$ , and each can yield several isoforms through alternative splicing. Each CaMKII protein assembles into homo- or heteromultimeric holoenzymes composed of 8 to 12 subunits. CaMKII $\delta$  expression is ubiquitous, and has been identified as the predominant isozyme in the heart, where it is implicated in the development of cardiac hypertrophy and heart failure.