

CaMKII $\delta$ 2/3/4/9/11/11a Affinity Purified Antibody

## Quality Control Certificate of Analysis

Catalogue No.: A010-56

Unit Size: 50  $\mu$ L

Lot No.:

**Background:**  $\text{Ca}^{2+}$ /calmodulin-dependent kinase II (CaMKII) is an ubiquitous, multifunctional serine/threonine kinase involved in translating  $\text{Ca}^{2+}$ signals into cellular responses (Shulman & Braun, 1999). Four separate CaMKII genes are expressed in man ( $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ) and these have a conserved core structure comprising a catalytic / autoregulatory domain and a self-assembly / association domain. The CaMKII family consists of around 30 isoforms arising from alternative splicing. CaMKII  $\delta$  is expressed in 10 alternatively spliced variants. Several CaMKII $\delta$  variants contain a C-terminal extension ( $\delta$  variants 2/3/4/9/11/11a). The primary sequence (epitope) used to make this antibody is shared by all these variants (2/3/4/9/11/11a), and this antibody will recognise each of these CaMKII $\delta$  splice variants.

**Description:** Rabbit polyclonal antiserum to CaMKII $\delta$ 1/2/3/4/9/11/11a

**Immunogen:** Synthetic peptide (CKENFSGGTSLWQNI) corresponding to amino acids at the C-terminus of human CaMKII $\delta$  isoform 3 or rat/mouse isoform 2 which was conjugated to blue carrier protein.

**Antibody Isotype:** whole serum.

**Antibody Purity:** whole serum containing IgG

**Vial Constituents:** Lyophilised CaMKII $\delta$ 2/3/4/9/11/11a antiserum.

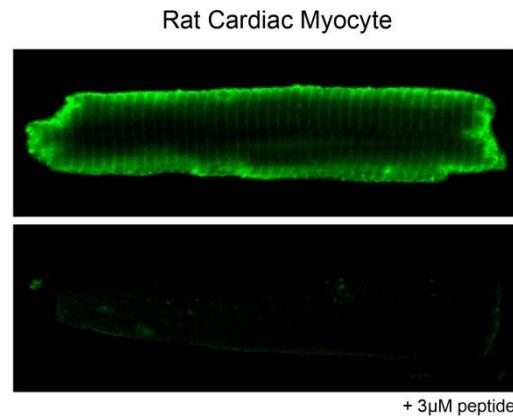
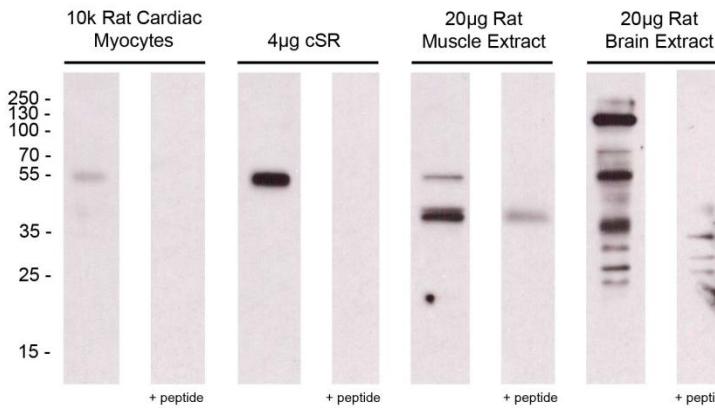
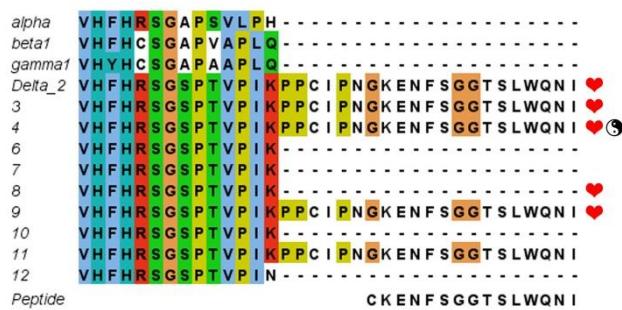
**Specificity:** The antibody stains for a band at 55kDa on a blot corresponding to delta isoforms of CaMKII that contain the additional C-terminal sequence.

**Species Cross Reactivity:** A010-56 recognises CaMKII $\delta$  variants (containing C-terminal extension) in all mammalian but has only been tested on rat and canine samples.

**Storage Instructions:** Lyophilised antiserum is stable at 4°C when stored with desiccant. **Reconstitute lyophilised powder in 50  $\mu$ L of 18 M $\Omega$  H<sub>2</sub>O, aliquot and store frozen at -80°C for 1 year.** Avoid freeze - thaw cycles.

**Tested Applications:** WB 1:5000 - 1:20,000. IF 1:200

**Human CaMKII  $\delta$  isoform alignment. Uniprot sp|Q13557 1-11**



**Left:** WB using 1:10,000 A010-56AP against 10k rat cardiac myocytes, 4 $\mu$ g of canine cardiac sarcoplasmic reticulum and 20  $\mu$ g rat skeletal muscle extract (exposure time 10 seconds) and 20 $\mu$ g rat brain extract (exposure time 5 minutes). Staining blocked by co-incubation of antibody with 20 $\mu$ M peptide. **Right:** IF staining using 1:200 anti-CaMKII $\delta$ 2/3/4/9/11/11a serum against a fixed & permeabilised rat cardiac myocyte. Staining blocked by 3 $\mu$ M peptide

**Related Products:** anti-CaMKII Phospho Thr-286 (A010-50AP). CaMKII  $\delta$  (A010-55AP)

**Background References:**

- HUDMON, A. & SCHULMAN, H. 2002. Neuronal  $\text{Ca}^{2+}$ /calmodulin-dependent protein kinase II: the role of structure and autoregulation in cellular function. *Annu Rev Biochem*, 71, 473-510.

- TAKEUCHI, M. & FUJISAWA, H. 1998. New alternatively spliced variants of calmodulin-dependent protein kinase II from rabbit liver. *Gene*, 221, 107-15.