

## Active Recombinant Rat Camk2a

**Cat. No.** Camk2a-746R    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                  |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant rat Ca <sup>2+</sup> /calmodulin kinase II $\alpha$ -subunit consisting of amino acids 1-325 (corresponding to monomeric $\alpha$ -subunit) was expressed in <i>S. frugiperda</i> insect cells.<br>MW = 33 kDa.                                      |
| <b>Species</b>          | Rat                                                                                                                                                                                                                                                              |
| <b>Source</b>           | <i>S. frugiperda</i>                                                                                                                                                                                                                                             |
| <b>Protein Length</b>   | 1-325 a.a.                                                                                                                                                                                                                                                       |
| <b>Description</b>      | CaM kinase II is a serine/threonine kinase that phosphorylates a wide variety of intracellular proteins. Reportedly involved in the modulation of neurite growth by cAMP. Lower levels of CaM kinase II $\alpha$ -subunit predispose neurons to ischemic damage. |
| <b>Purity</b>           | ≥90% by SDS-PAGE.                                                                                                                                                                                                                                                |
| <b>Form</b>             | Liquid. In 100 mM NaCl, 50 mM HEPES, 1 mM DTT, 0.1 mM EDTA, 50% glycerol, 0.02% Tween 20 Detergent, pH 7.5.                                                                                                                                                      |
| <b>Contaminants</b>     | Phosphatases, proteases: none detected.                                                                                                                                                                                                                          |
| <b>Activity</b>         | ≥250,000 units/ml.                                                                                                                                                                                                                                               |
| <b>Unit Definition</b>  | One unit is defined as the amount of enzyme that will catalyze the transfer of 1 pmol                                                                                                                                                                            |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

phosphate to Autocamtide-2, KKALRRQETVDAL, per min at 30°C, pH 7.5.

**Recommended Reaction Conditions**

1) Dilute CaM kinase II into 20 mM Tris-HCl, 10 mM MgCl<sub>2</sub>, 0.5 mM DTT, and 0.1 mM EDTA, pH 7.5. 2) Add 2.4 μM calmodulin, 2 mM CaCl<sub>2</sub>, 100 μM ATP, and [32P]-γATP at 100 μCi/pole. 3) Incubate at 30°C.

**Toxicity**

Standard Handling (MSDS available upon request).

**Storage**

≤ -70°C. Avoid freeze/thaw. Following initial thaw, aliquot and freeze (-70°C).

## GENE INFORMATION

**Gene Name**

Camk2a calcium/calmodulin-dependent protein kinase II alpha [ *Rattus norvegicus* ]

**Synonyms**

Camk2a; calcium/calmodulin-dependent protein kinase II alpha; PKCCD; PK2CDD; calcium/calmodulin-dependent protein kinase type II subunit alpha; alpha CaM kinase II; caMK-II subunit alpha; caM-kinase II alpha chain; caM kinase II subunit alpha; Ca<sup>2+</sup>/calmodulin-dependent protein kinase II alpha; calcium/calmodulin-dependent protein kinase II alpha subunit; calcium/calmodulin-dependent protein kinase type II alpha chain; calcium/calmodulin-dependent protein kinase (CaM kinase) II alpha; EC 2.7.11.17

**Gene ID**

25400

**mRNA Refseq**

NM\_012920

**Protein Refseq**

NP\_037052

**UniProt ID**

P11275

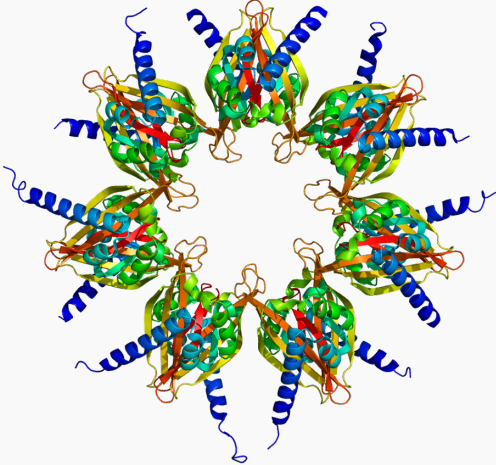
**Chromosome**

18q11

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

|                              |                                                                                                                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location                     |                                                                                                                                                                                                                         |
| Pathway                      | Calcium signaling pathway; ErbB signaling pathway; Glioma; GnRH signaling pathway; Long-term potentiation; Melanogenesis; Neurotrophin signaling pathway; Olfactory transduction; Oocyte meiosis; Wnt signaling pathway |
| Function                     | ATP binding; calmodulin binding; calmodulin-dependent protein kinase activity; kinase activity; nucleotide binding; protein binding; transferase activity                                                               |
| PDB rendering based on 1hxx. |                                                                                                                                      |