Recombinant Mouse Camk1b/Pregnancy upregulated Non-ubiquitously expressed CaM Kinase GST Active

Catalog No.	CRC105A	**Quantity:**	5 µg
	CRC105B		10 µg

Description: Recombinant full-length mouse CAMK1b containing N-terminal GST tag was expressed by baculovirus in Sf9 insect cells.

Many of the effects of calcium are mediated via its interaction with calmodulin and the subsequent activation of Ca(2+)/calmodulin-dependent (CaM) kinases. CaM kinases are involved in a wide variety of cellular processes including muscle contraction, neurotransmitter release, cell cycle control, and transcriptional regulation. While CaMKII has been implicated in learning and memory, the biological role of the other multifunctional CaM kinases, CaMKI and CaMKIV, is largely unknown. CaMKIbeta, or pregnancy upregulated non-ubiquitously expressed CaM kinase (PNCK), is a 38-kDa serine/threonine kinase whose catalytic domain shares 45-70% identity with members of the CaM kinase family. The gene for CaMKIbeta localizes to mouse chromosome X. CaMKIbeta is upregulated during intermediate and late stages of murine fetal development with highest levels of expression in developing brain, bone, and gut. CaMKIbeta is also expressed in a tissue-specific manner in adult mice with highest levels of expression detected in brain, uterus, ovary, and testis. Interestingly, CaMKIbeta expression in these tissues is restricted to particular compartments and appears to be further restricted to subsets of cells within those compartments. The chromosomal localization of CaMKIbeta, along with its tissue-specific and restricted pattern of spatial expression during development, suggests that CaMKIbeta may be involved in a variety of developmental processes including development of the central nervous system. Also CaMKIbeta2, an isoform of mCaMKIbeta, was mainly identified in the nervous system, including brain, spinal cord, trigeminal ganglion, and retina. Within the CNS, the expression of CaMKIbeta2 is detected in the mantle zone, but not in the ventricular zone, suggesting its possible involvement in the differentiation of neurons.

Concentration: 0.1 mg/ml

Protein Accession No: NM_012040

Source: Sf9 insect cells

Formulation: Recombinant protein in storage buffer (50 mM Tris-HCl + 150
0.1 mM EGTA + 0.1 mM EDTA + 0.1 mM PMSF + 25% glycerol; pH 7.5).

Purity: 2 µg of CAMK1b protein was subjected to SDS-PAGE and Coomassie blue staining. The scan of the gel showed >90% purity of the CAMK1b band product, and the band was at ~64 kDa (Fig. 2).

Specific Activity: 223 nmol/min/mg: 223 nmol phosphate incorporated into Autocamtide 2 per minute per mg protein at 30ºC for 15 minutes using a final concentration of 50 µM ATP (0.83 µCi/assay). See QA/QC section for details.

Storage & Stability: Store product frozen at or below -80°F. Stable for 1 year at -80°F as undiluted stock. Aliquot to avoid repeated thawing and freezing.

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Cell Sciences®
480 Neponset Street
Bldg 12A
Canton, MA 02021

Toll Free: 888-769-1246
Phone: 781-828-0610
Fax: 781-828-0542

E-mail: info@cellsciences.com
Website: www.cellsciences.com