

## Protein Kinase C $\lambda$ , Active human, Recombinant

Cat. No. NATE-0577

Lot. No. (See product label)

### Introduction

#### Description

Protein Kinase C (PKC) is a serine/threonine kinase that is activated intracellularly by signal transduction pathways that produce DAG from phosphatidylinositol diphosphate (PIP<sub>2</sub>) and phosphatidylcholine (PC) through the action of various activated phospholipases. Phorbol esters also stimulate PKC. At least 11 PKC isozymes have been identified that differ in primary structure, tissue distribution, subcellular localization, response to extracellular signals, and substrate specificity. The isozymes can be grouped into three subfamilies. Members of the first family require Ca<sup>2+</sup> and phospholipid and include PKC $\alpha$ ,  $\beta$ I,  $\beta$ II, and  $\gamma$ . Members of the second family are phospholipid-dependent but Ca<sup>2+</sup>-independent, and include PKC $\delta$ ,  $\epsilon$ ,  $\eta$ , and  $\theta$ . Members of the third family are not activated by either DAG or phorbol esters and include PKC $\xi$ ,  $\mu$ , and  $\iota$ .

#### Applications

Kinase activity is measured as the molar amount of phosphate incorporated into the CREBtide substrate peptide per minute per mg protein at 30°C using a final concentration of 50  $\mu$ M [32P] ATP.

#### Synonyms

PKCL; Protein Kinase C Lambda/Iota; PKC $\lambda$

### Product Information

#### Species

Human

#### Source

E. coli

#### Form

buffered aqueous glycerol solution

#### Molecular Weight

apparent mol wt ~98 kDa

#### Purity

> 85% (SDS-PAGE)

#### Buffer

Solution of 5  $\mu$ g in 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1mM EDTA, 0.1 mM PMSF, and 25% glycerol.

#### Pathway

Cell junction organization, organism-specific biosystem; Cell-Cell communication, organism-specific biosystem; Cell-cell junction organization, organism-specific biosystem; EGFR1 Signaling Pathway, organism-specific biosystem; Endocytosis, organism-specific biosystem; Endocytosis, conserved biosystem; G Protein Signaling Pathways, organism-specific biosystem

#### Function

ATP binding; metal ion binding; nucleotide binding; phospholipid binding; protein binding; protein kinase C activity; protein kinase activity; protein serine/threonine kinase activity; protein serine/threonine kinase activity; zinc ion binding

### Storage and Shipping Information

#### Stability

-70°C