



Product Information

Protein Kinase C from Rat Brain

Product Code **P 7956**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

EC#: 2.7.1.37
Synonym: PKC

Product Description

Protein Kinase C exists as a single peptide chain with a hydrophobic membrane attachment domain and a hydrophilic catalytic domain.¹ The molecular weight has been determined to be 82 kDa (SDS-PAGE), 77 kDa (sedimentation) and 87 kDa (gel filtration). The Stokes radius is 42 Angstroms.

Protein Kinase C (PKC) is a serine/threonine kinase characterized by its activation *in vitro* by Ca^{2+} , phospholipid (primarily phosphatidylserine), and diacylglycerol (DAG).¹ PKC is activated intracellularly by signal transduction pathways that produce DAG along with some lysophospholipids and fatty acids, from phosphatidylinositol diphosphate (PIP2) and phosphatidylcholine (PC) through the action of various activated phospholipases.

Purity: not less than 90% (SDS-PAGE)

Preparation Instructions

Reconstitute each vial with 100 μl of distilled water (or a 10% glycerol solution, if the solution is to be frozen) to obtain a solution containing 20 mM Tris, pH 7.5, 0.5 mM EDTA, 0.5 mM EGTA, 5 mM DTT, 100 mM NaCl, 0.02% TWEEN 20, 10% sucrose and 1 $\mu\text{g/ml}$ leupeptin. Subsequent dilutions can be made in 50 mM Tris-HCl, pH 7.4, with 5 mM DTT.

Storage/Stability

It is recommended to store the lyophilized powder at $-20\text{ }^{\circ}\text{C}$. After reconstitution freeze in aliquots in liquid nitrogen and store at $-70\text{ }^{\circ}\text{C}$.

Procedure

For the Sigma enzymatic activity assay the following concentrations are used: In a 0.05 ml reaction mix, the final concentrations are 200 $\mu\text{g/ml}$ histone, 60 mM Tris, 20 mM magnesium chloride, 1 mM calcium chloride, 8 $\mu\text{g/ml}$ 1,2-dioleoyl-rac-glycerol (C18:1,[cis]-9), 200 $\mu\text{g/ml}$ phosphatidylserine, 0.02% (w/v) TRITON X-100, 0.1 mM adenosine 5'-triphosphate, 1 mM D,L-dithiothreitol, and 0.03 - 0.05 unit Protein Kinase C.

One unit is defined as the amount of enzyme necessary to transfer 1 nmole of phosphate per minute from ATP to histone H1 at pH 7.4 at $30\text{ }^{\circ}\text{C}$.

References

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