Recombinant Human Zeta-chain (TCR) Associated Protein Kinase 70 kDa GST Active

Catalog No.	CRZ106A	**Quantity:**	5 µg
	CRZ106B		10 µg

Description: Recombinant N-terminal GST tag, full length human ZAP-70 was expressed by baculovirus in Sf9 insect cells.

ZAP70 is a non-receptor protein tyrosine kinase (part of the Syk/Zap70 family) that is involved in signaling by the T-cell antigen receptor (TCR). Ligation of the TCR/CD3 receptor in Jurkat T-cells induces phosphoprotein complexes which contain ZAP70. TCR zeta chains are initially phosphorylated by p56Lck that lead to the recruitment of ZAP70 via its SH2 domain. ZAP70 in turn phosphorylates other proteins in the TCR-phosphoprotein complex. ZAP70 tyrosine kinase is tyrosine phosphorylated in Jurkat T cells and in purified peripheral T cells after MHC-I ligation. The phosphorylation of ZAP70 after MHC-I ligation is dependent on TCR/CD3 surface expression. One of the natural substrates for ZAP70 is the zeta-chain dimer of the TCR/CD3 complex. Another substrate of ZAP70 is LAT (linker for activation of T cells). Direct tyrosine phosphorylation of LAT with activated protein-tyrosine kinase Zap70 is necessary and sufficient for the association and activation of signaling proteins. Zap-70 efficiently phosphorylates LAT on tyrosine residues at positions 226, 191, 171, 132 and 127. By substituting these tyrosine residues in LAT with phenylalanine and by utilizing phosphorylated peptides derived from these sites, the tyrosine residues in LAT have been shown to be required for the direct interaction and activation of Vav, p85/p110alpha and phospholipase Cgamma1 (PLCgamma1).

Concentration: 0.1 mg/ml

Protein Accession No: NM_001079

Source: Sf9 insect cells

Formulation: Recombinant protein in storage buffer (50 mM Tris-HCl + 150 mM NaCl + 0.25 mM DTT + 0.1 mM EGTA + 0.1 mM EDTA + 0.1 mM PMSF + 25% glycerol; pH 7.5).

Purity: 3 µg of ZAP70 protein was subjected to SDS-PAGE and Coomassie blue staining. The scan of the gel showed >90% purity of the ZAP70 products, and the band was at ~96 kDa (Fig. 2).

Specific Activity: 113 nmol/min/mg: 113 nmol phosphate incorporated into Poly(Glu-Tyr) substrate per minute per mg protein at 30ºC for 15 minutes using a final concentration of 50 µM ATP (0.83 µCi/assay in 25 µl reaction volume). 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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