Active CHK2

CATALOG #: 7712-5 5 µg

SOURCE: Sf 9 cells

PURITY: 1 µg of CHK2 protein was subjected to SDS-PAGE and Coomassie blue staining. The scan of the gel showed >90% purity of the CHK2 band product, and the band was at ~88 kDa.

SPECIFIC ACTIVITY: 1138 nmol/min/mg

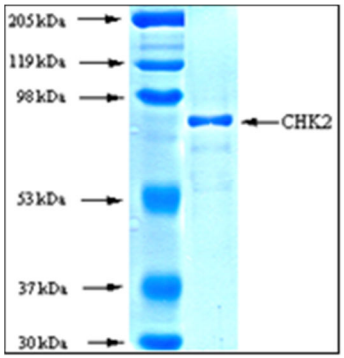
MOLECULAR WEIGHT: ~88 kDa.

FORMULATION: Recombinant proteins in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).

STORAGE CONDITIONS: Store product frozen at or below -70°C. Stable for 1 year at -70°C as undiluted stock. Aliquot to avoid repeated thawing and freezing.

BACKGROUND DESCRIPTION: Chk2 is the mammalian homolog of the Saccharomyces cerevisiae Rad53 and Schizosaccharomyces pombe Cds1 protein kinases required for the DNA damage and replication checkpoints. Chk2 is rapidly phosphorylated and activated in response to replication blocks and DNA damage; the response to DNA damage occurs in an ataxia telangiectasia mutated (ATM)-dependent manner. In vitro, Chk2 phosphorylates p53 on Ser-20 and dissociated preformed complexes of p53 with Mdm2, a protein that targets p53 for degradation. In vivo, ectopic expression of wild-type Chk2 leads to increased p53 stabilization after DNA damage, whereas expression of a dominant-negative Chk2 mutant abrogated both phosphorylation of p53 on Ser-20 and p53 stabilization. Thus, in response to DNA damage, Chk2 stabilizes the p53 tumor suppressor protein leading to cell cycle arrest in G1. Chk2 is directly phosphorylated by ATM in response to ionizing radiation. The phosphorylation occurs in the Ser-Gln/Thr-Gln (SQ/TQ) cluster domain (SCD) on Chk2, which contains seven SQ/TQ motifs, and Thr68 is the major in vitro phosphorylation site by ATM.

ACTIVITY: 1138 nmol phosphate incorporated into CHKtide per minute per mg protein at 30°C for 15 minutes using a final concentration of 50 µM ATP (0.83 µCi/assay).



PKD2 Protein Gel

RELATED PRODUCTS:

- ATM Antibody **(Cat. No. 3813-100)**

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