abcam

Product datasheet

Recombinant human Chk2 protein ab42604

Description

Product name	Recombinant human Chk2 protein
Biological activity	1 U/ug. One unit is defined as the amount of enzyme that will phosphorylate 1 nmol of CHKtide substrate per minute at pH 7.4 and 30C. Assay buffer: 50 mM HEPES, pH 7.4, 3 mM MgCl2, 3 mM MnCl2, 1 mM DTT, 3 uM Na-orthovanadate, 0.1 mM ATP.
Purity	> 80 % SDS-PAGE. Affinity purified.
Expression system	Baculovirus infected Sf9 cells
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	91 kDa
Tags	His tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab42604** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Inhibition Assay
Form	Liquid

Preparation and Storage

Stability and Storage	Shipped on Dry Ice. Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle. pH: 7.5 Constituents: 0.0462% (R*,R*)-1,4-Dimercaptobutan-2,3-diol, 0.395% Tris HCl, 0.05% Tween, 50% Glycerol (glycerin, glycerine), 0.58% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

Function	Regulates cell cycle checkpoints and apoptosis in response to DNA damage, particularly to DNA double-strand breaks. Inhibits CDC25C phosphatase by phosphorylation on 'Ser-216', preventing the entry into mitosis. May also play a role in meiosis. Regulates the TP53 tumor suppressor through phosphorylation at 'Thr-18' and 'Ser-20'.
Tissue specificity	High expression is found in testis, spleen, colon and peripheral blood leukocytes. Low expression is found in other tissues.
Involvement in disease	Defects in CHEK2 are associated with Li-Fraumeni syndrome 2 (LFS2) [MIM:609265]; a highly penetrant familial cancer phenotype usually associated with inherited mutations in p53/TP53. Defects in CHEK2 may be a cause of susceptibility to prostate cancer (PC) [MIM:176807]. It is a malignancy originating in tissues of the prostate. Most prostate cancers are adenocarcinomas that develop in the acini of the prostatic ducts. Other rare histopathologic types of prostate cancer that occur in approximately 5% of patients include small cell carcinoma, mucinous carcinoma, prostatic ductal carcinoma, transitional cell carcinoma, squamous cell carcinoma, basal cell carcinoma, adenoid cystic carcinoma (basaloid), signet-ring cell carcinoma and neuroendocrine carcinoma. Defects in CHEK2 are found in some patients with osteogenic sarcoma (OSRC) [MIM:259500].
Sequence similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CHK2 subfamily. Contains 1 FHA domain. Contains 1 protein kinase domain.
Post-translational modifications	Phosphorylated by PLK4.
Cellular localization	Nucleus; Nucleus. Isoform 10 is present throughout the cell and Nucleus > PML body. Nucleus > nucleoplasm. Recruited into PML bodies together with TP53.