

CHEK2 Protein, Mouse, Recombinant (His & GST)

General Information

Synonyms:	Rad53;CHK2;checkpoint kinase 2;Cds1;HUCDS1
Protein Construction:	A DNA sequence encoding the mouse CHEK2 (Q9Z265) (Mey 1-Leu 546) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	Q9Z265
Molecular Weight:	89 kDa (predicted); 90 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 8.0.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C . Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

In response to DNA damage and replication blocks, cell cycle progression is halted through the control of critical cell cycle regulators. The protein encoded by CHEK2 gene is a cell cycle checkpoint regulator and putative tumor suppressor. It contains a forkhead-associated protein interaction domain essential for activation in response to DNA damage and is rapidly phosphorylated in response to replication blocks and DNA damage. When activated, the encoded CHEK2 protein is known to inhibit CDC25C phosphatase, preventing entry into mitosis, and has been shown to stabilize the tumor suppressor protein p53, leading to cell cycle arrest in G1. In addition, this protein interacts with and phosphorylates BRCA1, allowing BRCA1 to restore survival after DNA damage. Mutations in this gene have been linked with Li-Fraumeni syndrome, a highly penetrant familial cancer phenotype usually associated with inherited mutations in TP53. Also, mutations in CHEK2s gene are thought to confer a

predisposition to sarcomas, breast cancer, and brain tumors. This nuclear protein is a member of the CDS1 subfamily of serine/threonine protein kinases. Several transcript variants encoding different isoforms have been found for this gene. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

Bogdanova N, et al. (2005) Association of two mutations in the CHEK2 gene with breast cancer. *Cancer Genetics*. 116(2) : 263-6.

Dong XY, et al. (2003) Mutations in CHEK2 associated with prostate cancer risk. *The American journal of human genetics*. 72(2) 270-80.

Massink MPG, et al. Genomic profiling of CHEK2*1100delC-mutated breast carcinomas. *BMC Cancer*. 2015;15:877. doi:10.1186/s12885-015-1880-y.

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