# Data Sheet (Cat.No.TMPY-04433)

TargetMol

## Chk1 Protein, Mouse, Recombinant (His & GST)

### General Information

| | |
|---|---|
| Synonyms: | checkpoint kinase 1;Chk1;C85740;rad27 |
| Protein Construction: | A DNA sequence encoding the mouse CHEK1 (O35280-1) (Met1-Thr476) 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: | O35280-1 |
| Molecular Weight: | 82.2 kDa (predicted); 78 kDa (reducing conditions) |

### QC Testing

| | |
|---|---|
| Biological Activity: | Kinase activity untested |
| Purity: | > 90 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 8.5, 3 mM DTT, 10% gly. |

### 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

CHK1 / CHEK1 contains 1 protein kinase domain and belongs to the protein kinase superfamily, CAMK Ser/Thr protein kinase family, NIM1 subfamily. It is a member of checkpoint kinases (Chks). Chks Checkpoint kinases (Chks) are serine/threonine kinases that are involved in the control of the cell cycle. There are two subtypes of chks that have so far been identified, CHK1 / CHEK1 and Chk2. They are essential components to delay cell cycle progression in normal and damaged cells and can act at all three cell cycle checkpoints. Chks are activated by phosphorylation. ATR kinase phosphorylates CHK1 / CHEK1 in response to single strand DNA breaks and ATM kinase phosphorylates Chk2 in response to double strand breaks. Chks phosphorylate Cdc25 phosphatase at Ser216, which leads to Cdc25 sequestration in the cytoplasm. Chks have a role in the physiological stress of hypoxia/reoxygenation. CHK1 / CHEK1 is required for checkpoint mediated cell cycle arrest in response to DNA

damage or the presence of unreplicated DNA. CHK1 / CHEK1 may also negatively regulate cell cycle progression during unperturbed cell cycles.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Chen P, et al. (2000) The 1.7 a crystal structure of human cell cycle checkpoint kinase CHK1 / CHEK1: Implications for CHK1 / CHEK1 regulation. Cell. 100 (6): 681-92.

Sanchez Y, et al. (1997) Conservation of the CHK1 / CHEK1 checkpoint pathway in mammals: linkage of DNA damage to Cdk regulation through Cdc25. Science. 277 (5331): 1497-501.

Flaggs G, et al. (1998) Atm-dependent interactions of a mammalian CHK1 / CHEK1 homolog with meiotic chromosomes. Curr Biol. 7 (12): 977-86.

Chini CC, et al. (2005) Claspin, a regulator of CHK1 / CHEK1 in DNA replication stress pathway. DNA Repair. 3 (8-9): 1033-7.



Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481