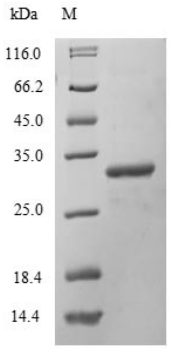
Recombinant Mouse DNA-dependent protein kinase catalytic subunit(Prkdc),partial

Product Code	CSB-EP018714MO
Relevance	Serine/threonine-protein kinase that acts as a molecular sensor for DNA damage. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break (DSB) repair and V(D)J recombination. Must be bound to DNA to express its catalytic properties. Promotes processing of hairpin DNA structures in V(D)J recombination by activation of the hairpin endonuclease artis (DCLRE1C). The assbly of the DNA-PK complex at DNA ends is also required for the NHEJ ligation step. Required to protect and align broken ends of DNA. May also act as a scaffold protein to aid the localization of DNA repair proteins to the site of damage. Found at the ends of chromosomes, suggesting a further role in the maintenance of telomeric stability and the prevention of chromosomal end fusion. Also involved in modulation of transcription. Recognizes the substrate consensus sequence [ST]-Q. Phosphorylates 'Ser-139' of histone variant H2AX/H2AFX, thereby regulating DNA damage response mechanism. Phosphorylates DCLRE1C, C1D, c-Abl/ABL1, histone H1, HSPCA, c-jun/JUN, p53/TP53, PARP1, POU2F1, DHX9, SRF, XRCC1, XRCC4, XRCC5, XRCC6, WRN, MYC and RFA2. Can phosphorylate C1D not only in the presence of linear DNA but also in the presence of supercoiled DNA. Ability to phosphorylate p53/TP53 in the presence of supercoiled DNA is dependent on C1D. Contributes to the determination of the circadian period length by antagonizing phosphorylation of CRY1 'Ser-588' and increasing CRY1 protein stability, most likely through an indirect machanism.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P97313
Storage Buffer	Tris-based buffer,50% glycerol
Alias	p460
Product Type	Recombinant Protein
Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	EYPFLVKGGEDLRQDQRIEQIFEVMNAILSQDAACSQRNMQLRTYRVVPMTSR LGLIEWIENTMTLKDLLLSNMSQEEKVANNSDPKAPIRDYKDWLMKVSGKSDA GAYVLMYSRANRTETVVAFRRRESQVPPDLLKRAFVKMSTSPEAFLALRSHFA SSHALLCISHWLLGIGDRHLNNFMVAMETGSVIGIDFGHAFGSATQFLPVPELM PFRLTRQFVSLMLPMKETGLMCTVMVHALRAFRSCAGLLTDTMEIFVKEPSFD WKS
Research Area	Others

Source	E.coli
Gene Names	Prkdc
Expression Region	3747-4015aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	34.6kDa
Protein Description	Partial

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.