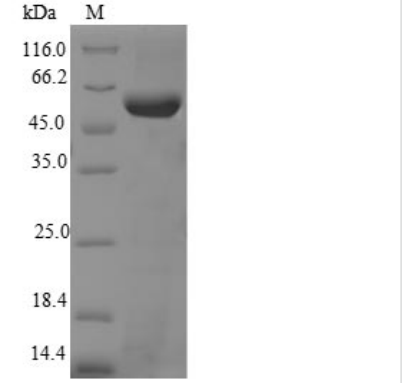
Recombinant Mouse Telomerase reverse transcriptase (Tert), partial

Product Code	CSB-EP023391MO
Relevance	Telomerase is a ribonucleoprotein enzyme essential for the replication of chromosome termini in most eukaryotes. Active in progenitor and cancer cells. Inactive, or very low activity, in normal somatic cells. Catalytic component of the teleromerase holoenzyme complex whose main activity is the elongation of telomeres by acting as a reverse transcriptase that adds simple sequence repeats to chromosome ends by copying a template sequence within the RNA component of the enzyme. Catalyzes the RNA-dependent extension of 3'-chromosomal termini with the 6-nucleotide telomeric repeat unit, 5'-TTAGGG-3'. The catalytic cycle involves primer binding, primer extension and release of product once the template boundary has been reached or nascent product translocation followed by further extension. More active on substrates containing 2 or 3 telomeric repeats. Telomerase activity is regulated by a number of factors including telomerase complex-associated proteins, chaperones and polypeptide modifiers. Modulates Wnt signaling. Plays important roles in aging and antiapoptosis
Abbreviation	Recombinant Mouse Tert protein, partial
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.	O70372
Alias	Telomerase catalytic subunit
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	EVRHHQDTWLAMPICRLRFIPKPNGLRPIVNMSYSMGTRALGRRKQAQHFTQ RLKTLFSMLNYERTKHPHLMGSSVLGMNDIYRTWRAFVLRVRALDQTPRMYF VKADVTGAYDAIPQGKLVEVVANMIRHSESTYCIRQYAVVRRDSQGQVHKSFR RQVTTLSDLQPYMGQFLKHLQDSDASALRNSVVIEQSISMNESSSSLFDFFLH FLRHSVVKIGDRCYTQCQGIPQGSSLSTLLCSLCFGDMENKLFAEVQRDGLLL RFVDDFLLVTPHLDQAKTFLSTLVHGVPEYGCMINLQKTVVNFPVEPGTLGGA APYQLPAHCLFPWCGLLL
Research Area	others
Source	E.coli
Target Names	Tert
Protein Names	Recommended name: Telomerase reverse transcriptase EC= 2.7.7.49 Alternative name(s): Telomerase catalytic subunit

Expression Region	595-928aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	54.1kDa
Protein Length	Partial

Image



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

Description

Amino acids 595-928 form the expressed segment for recombinant Mouse Tert. The theoretical molecular weight of the Tert protein is 54.1 kDa. This Tert recombinant protein is manufactured in e.coli. The Tert coding gene included the N-terminal 6xHis-SUMO tag, which simplifies the detection and purification processes of the recombinant Tert protein in following stages of expression and purification.

The telomerase reverse transcriptase (TERT) is a crucial enzyme involved in maintaining telomere length, which is essential for chromosomal stability and cellular lifespan. TERT is a catalytic subunit of the telomerase complex, responsible for adding telomeric DNA repeats to the ends of chromosomes during DNA replication. This process counteracts the gradual shortening of telomeres that occurs with each cell division. In mice, TERT plays a fundamental role in preventing premature cellular senescence and supporting tissue homeostasis. The enzyme is particularly active in stem cells and highly proliferative cells, contributing to their ability to undergo numerous cell divisions. Research areas related to TERT include aging, cancer, and regenerative medicine, as its activity is tightly linked to cellular processes influencing both normal development and pathological conditions. Understanding the regulation and function of TERT holds significant implications for potential therapeutic strategies targeting age-related diseases and cancer.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients,

storage temperature and the stability of the protein itself.
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