Active Telomerase Reverse Transcriptase (TERT)

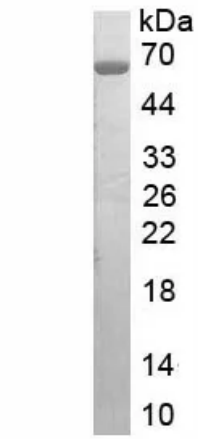
Catalog#:PEH12830

概述（Summary）

别称（Alternative Names）	EST2; TCS1; TP2; TRT; hEST2; Telomerase catalytic subunit; Telomerase-associated protein 2
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Arg787-Arg1084】
Accession #	O14746
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	63.4 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	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.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

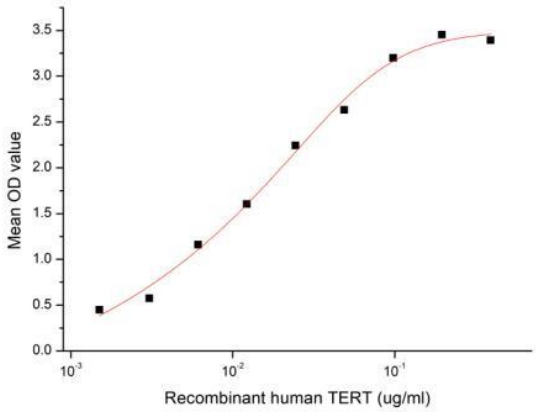


Figure 1. The binding activity of recombinant human TERT and recombinant rat XRCC6

Telomerase reverse transcriptase (TERT) is a subunit of the enzyme complex telomerase, which adds nucleotides to the ends of telomeres as they become shortened during cell division .Telomerase complex plays a key role in cancer formation by telomere dependent or independent mechanisms. According to statistics, human telomerase reverse transcriptase (h-TERT) is overexpressed in more than 85% of tumors with diverse histologies, with little expression in normal tissues. Expression of h-TERT correlates with activity of telomerase, which is required for the capacity for limitless replication, a hallmark of cancer. The

X-Ray Repair Cross Complementing 6 (XRCC6) is high affinity receptor for TERT, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human TERT and recombinant rat XRCC6. Briefly, TERT was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to XRCC6-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TERT pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant TERT and recombinant rat XRCC6 was shown in Figure 1, the EC50 for this effect is 0.009 ug/mL.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.