

Allied Biotech

Where the life sciences come to life.

Discovery Products

QUANTITATIVE TELOMERASE DETECTION KIT

Telomerase is a ribonucleoprotein enzyme complex that extends telomere length by adding hexameric (TTAGGG) repeats onto the telomeric ends of chromosomes. Telomerase plays an important role in the control of proliferation and tumorigenesis. Quantitative Telomerase Detection Kit (QTD) is specifically designed for quantitative detecting telomerase activity. The QTD kit is a highly sensitive *in vitro* assay system for quantitative detecting telomerase activity. The assay is an one step real time PCR reaction. In the first part of the reaction, the active telomerase from lysed cells/tissues sample adds a varied number of telomeric repeats (TTAGGG) onto the 3' end of the substrate oligonucleotide. These extension products are then amplified by polymerase chain reaction (PCR). Generated PCR products are directly detected by measuring the increase in fluorescence caused by binding of SYBR Green to double-strand DNA. The QTD kit also provides a control template for quantitative analysis of your samples.

Features and Benefits

- **Convenient:** Premix contains all the reaction components except your sample
- **Fast:** Entire procedure can be completed in hours
- **Sensitive:** Detect telomerase activity in trace amount of sample, such as 1-5 cells in 293T cells
- **Stable:** Special components are used to minimize well-to-well variability
- **Quantitative:** TSR control template provides positive control and quantitative standard for each reaction

Real Time PCR

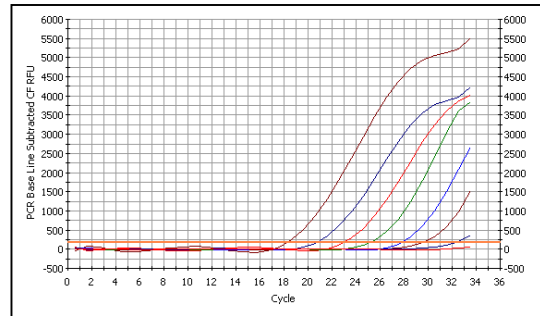


Fig. 1. The results from TSR real time PCR:
■ 300,000 Molecules, ■ 60,000 Mo, ■ 12,000 Mo,
■ 2,400 Mo, ■ 480 Mo, ■ 100 Mo, ■ 20 Mo. ■ Blank.

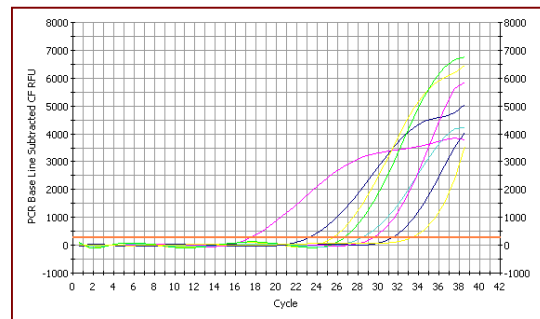


Fig. 2. The results from 293T cell line real time PCR:
■ 8,500 cells, ■ 2,500 cells, ■ 500 cells, ■ 100 cells
■ 20 cells ■ 4 cells, ■ 1 cell, ■ Blank.

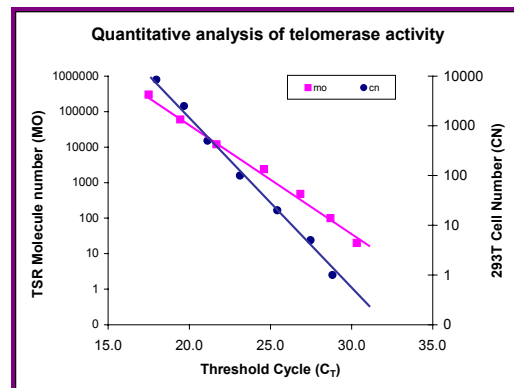


Fig. 3. Quantitative analysis of telomerase activity in 293T cells using TSR control: ■ Linear regression between 293T cell number and threshold Cycle, ■ Linear regression between TSR molecule number and threshold cycle.



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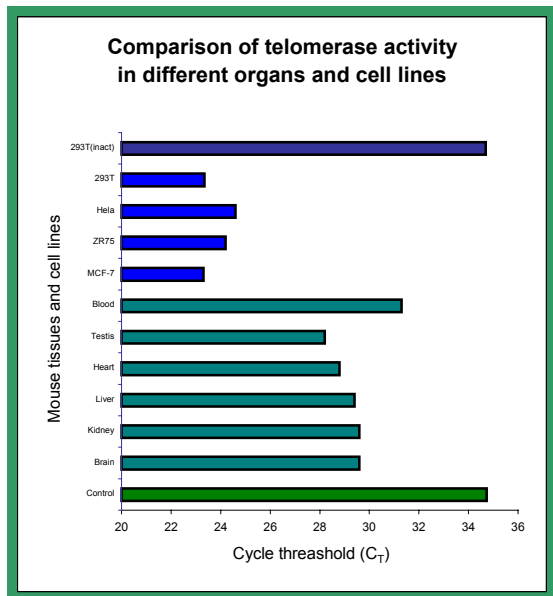


Fig. 4. Detection of telomerase activity in different human cell lines and mouse organs.

Ordering Information

Quantitative Telomerase Detection Kit
 Catalog No: MT3010 (50 reactions)
 MT3011 (100 reactions)
 MT3012 (200 reactions)

Components: QTD pre-mix
 TSR Quantitative Control
 Lysis Buffer
 PCR-Grade Water

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