

## SELF-TEST CORNER OF MOLBIOL UNDERGRADUATE: DESIGNING OWN TESTS Part 5.

Zarina Dossova

Posted By **Zaure G. Aytasheva**, Wednesday, February 25, 2015

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Submitted by **Zarina Dossova BT 13-10**

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### End replication: telomerases of tumour, embryonic and normal cells

1. Cell that is known to possess lower level of telomerase activity is:
  - a. embryonic stem cell
  - b. heart cell
  - c. immune system cell
  - d. mesenchymal stem cell**
  - e. blood cell
2. An enzyme that prevents telomere shortening by rebuilding DNA end fragments is:
  - a. protease
  - b. telomerase**
  - c. lipase
  - d. transferase
  - e. isomerase
3. The enzyme telomerase solves end replication problem of linear chromosomes by which method?
  - a. adding a single 5' cap residue that withstands degradation implied by the nucleases
  - b. causing specific double-strand DNA breaks which result in blunt ends on both strands
  - c. causing linear ends of the newly synthesized DNA prior to circularization
  - d. adding numerous short DNA sequences such as TTAGGG which form a hairpin turn**
  - e. adding numerous GC isles which are steady to hydrolysis to maintain chromosome integrity
4. What is the telomerase?
  - a. oligosaccharide
  - b. nitrogenous base
  - c. ribonucleoprotein**
  - d. antibody
  - e. completely unknown structure
5. Additional roles for telomerase including the upregulation of 70 genes known or suspected in cancers' growth has been disclosed by ...?
  - a. Tomas Eding
  - b. Johnathan Andrews
  - c. Melissa Burking
  - d. Augusto Charloing
  - e. Elizabeth Blackburn**
6. Which of the following statements is NOT true of the telomerase?

- a. Telomerase contains a ribozyme
  - b. Telomerase activity drops with the cell aging
  - c. Telomerase adds a repeating sequence to the 5' end of DNA**
  - d. Telomerase adds a repeating sequence to the 3' end of DNA
  - e. Telomerase is found only in eukaryotes.
7. What is the role of telomerase RNA in telomere replenishing??
- A. Acts as a template**
  - B. Acts as a primer
  - C. Acts as a ribozyme
  - d. A and B
  - e. B and C
8. What is the role of the DNA strand in telomere replenishing?
- A. Acts as a template
  - B. Acts as a primer**
  - C. Acts as a promoter
  - D. Acts as an enhancer
  - E. None of the above
9. What is the nature of the enzyme concluded in the telomerase protein?
- A. Terminal transferase
  - B. DNA polymerase
  - C. Reverse transcriptase**
  - D. RNA polymerase
  - E. Topoisomerase
10. What is the percentage of human carcinomas with a high telomerase activity?
- a. 50-55%
  - b. 5-10%
  - c. 80-90%**
  - d. 30-40%
  - e. 70-75%

Instructor Z. Aytasheva

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