

Telomerase Enzyme: Most Effective Anti-Aging Supplement

Telomeres are the structures at the end of chromosomes that are characterized by thousands of tandem repeats of the nucleotide sequence TTAGGG. Studies reveal that at every passing stage of human life these sequences of nucleotides shorten gradually during every process of cell replication and division. The length of the telomere faces gradual decline. This shortening of the telomere is believed to cause consequent cellular damage on account of the inability of the cell to duplicate itself efficiently. Hence we have a sequence of events from slowly progressing cellular dysfunction to subsequent aging phenomena finally leading to death.

The enzyme telomerase is responsible for maintaining the integrity of these telomeres. Chromosomes are crucial part of all our life functions and this integral part of the human system is maintained in aspects concerning its structural integrity, positioning and accuracy of replication by the telomeres. By adding multiple repeats of nucleotides to the telomeres, the [telomerase enzyme](#) prevents the damage and the loss of genetic information during DNA replication. Hence Scientist have come to this conclusion that telomerase is the key hormone that aids genetic repair and replaces telomere sequences consistently thus re-regulating the clock that controls the life-span of the dividing cells.

Telomerase is made up of a number of multiple protein components and a stretch of RNA that is used as a template to synthesize the short tandem repeats of DNA that are added to the end of the chromosomes. Telomerase appears to be the enzyme that stops the cellular clock of aging by providing additional DNA to the chromosomal length and enabling cell division to continue to proliferate and regenerate. Therapies are being fabricated that may help to prevent the deteriorating effects of aging by maintaining the length of our telomeres. This would strengthen and stabilize our basic DNA structure.

While there are popular supplements to fight against aging like vitamin E, fish oils, vitamin D3 and resveratrol that claim to enhance the telomerase activity and lengthen the telomere length, there are now available telomerase supplement itself that are synthesized using live cell cultures and marketed in the [anti-aging](#) product industry. The latter promises to deliver the exact enzyme that otherwise are degraded in our body day by day as we age. A series of other tests and research on other genes involved in aging is also undertaken in order to alter their function in order to achieve optimal

health with longevity. This not only improves the chances of extending your youthfulness but also would prove beneficial in curbing the possibility of the occurrence of aging related syndromes like Werner syndrome, Alaxia telangiectasia, Bloom syndrome, Fanconi anemia, Nijmegen breakage syndrome and so on.