

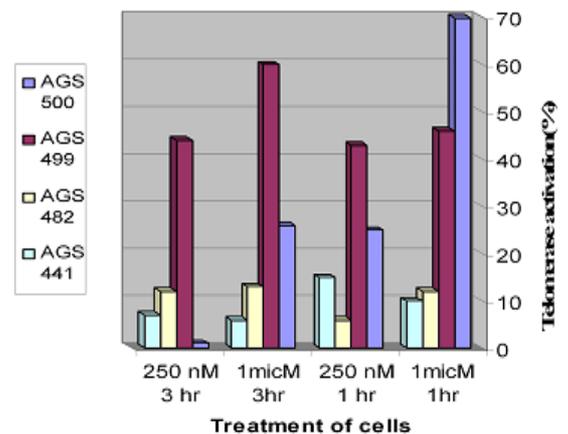
Novel Telomerase Activators

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Telomerase is an endogenous enzyme which re-lengthens telomeres. It is present in high concentrations in the fast-growing embryo's stem cells, and declines with age. Telomerase is a key enzyme in cellular immortality. In adult normal cells, telomerase is present only transiently or at very low levels. Its expression is maintained in cells that need to divide regularly, such as normal germ cells, intestine epithelial cells, stem-cells, activated immunocytes and endometrium cells. Telomerase participate in the DNA repair mechanism and is essential for enhancing the DNA repair efficiency. Telomerase activators may enhance the efficiency of the DNA repair process and may protect cells in stress and DNA damaging conditions. It is believed that therapies based on telomerase activation may be beneficial in significantly extending lifespan. There are evidence in the scientific literature for beneficial effects of telomerase in a large number of clinical cases such as: AIDS; cardiovascular diseases, joint diseases (improved cartilage production), infectious in the elderly (improved overall immune response), macular degeneration, Osteoporosis several kinds of Anemia, stroke and neurodegenerative diseases including Alzheimer, Parkinson, Amyotrophic Lateral Sclerosis (ALS), premature aging syndromes including Werner syndrome and more.

The Technology

We have synthesized a number of novel small molecules acting as telomerase activators. Depending on the *in vitro* model tested, an increase of 20%-70% in telomerase activity was found with these molecules. When tested in the *in vivo* nematode model of irradiated *C.Elegance*, the telomerase activity following treatment with the telomerase activators was increased by 150%-250% as compared to non treated worms and the mean life-span was increased by about 40%.



Applications

- Neurodegenerative diseases such as: Age-related Macular Degeneration (AMD), Amyotrophic Lateral Sclerosis (ALS), Parkinson, Alzheimer
- Premature aging syndromes
- Myocardial Infarction (MI)
- Prevention of Skin Aging
- Boosting of the immune system

Patent Status Patent Pending

Research Team

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