

9. there is no current effective treatment



9. Future Research 9. 1 p38 Inhibitor as a Treatment in Werner's

Syndrome As there is no current effective treatment to cure WS, many clinical trials and researches are ongoing. (Bagley, et. al, 2010) stated that genome instability, increased pro-oxidant state, and frequent replication fork stalling are likely to trigger intracellular stress in WS cells; these also shortened the replicative lifespan with implicated p38 MAPK signalling.

Researchers have found out that by using p38 MAPK inhibitor in collaboration with microwave heating techniques to treat WS fibroblasts revealed an unexpected reversal of the accelerated ageing phenotype. Thus, they have drawn a conclusion that by treating WS with p38 inhibition is likely to provide new revelations into biological mechanisms operating in cellular senescence and human again in the future. 9.

2 Vitamin C as a Treatment in Werner's Syndrome

Another future treatment was suggested by (Li, et. al, 2016). These researchers have indicated the premature aging in WS mainly affected tissues derived from mesoderm and affected by WRN-deficient human mesenchymal stem cells (MSCs). They found out that Vitamin C restored in-vivo viability of MSCs in mouse model and reversed many features in premature ageing associated with WS including cell growth arrest, increased reactive oxygen species levels, telomere attrition, excessive secretion of inflammatory factors, as well as the disorganisation of nuclear lamina and heterochromatin.

They explained these findings by RNA sequencing analysis that Vitamin C altered the expression of a series of genes which involved in DNA replication, cell cycle regulation, chromatin condensation, and DNA repairing process.

Thus, they have drawn a conclusion that VitaminC holds the potential as a future treatment in WS as a rejuvenated factor of WRN-deficient human MSCs.