

Reversing aging: Cellular damage could be reversed by activating genes in mitochondria

Researchers from Caltech and UCLA have developed a new approach to removing cellular damage that accumulates with age. The technique can potentially help slow or reverse an important cause of aging.

Led by Nikolay Kandul, senior postdoctoral scholar in biology and biological engineering in the laboratory of Professor of Biology Bruce Hay, the team developed a technique to remove mutated DNA from mitochondria....

There are hundreds to thousands of mitochondria per cell, each of which carries its own small circular DNA genome, called mtDNA,...The accumulation of mutant mtDNA over a lifetime is thought to contribute to aging and degenerative diseases of aging such as Alzheimer's, Parkinson's, and sarcopenia—age-related muscle loss and frailty.

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The team found that when they artificially increased the activity of genes that promote mitophagy,...the fraction of mutated mtDNA in the fly muscle cells was dramatically reduced.

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“Such a decrease would completely eliminate any metabolic defects in these cells, essentially restoring them to a more youthful, energy-producing state,” notes Hay. “The experiments serve as a clear demonstration that the level of mutant mtDNA can be reduced in cells by gently tweaking normal cellular processes.”

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Turning Back the Aging Clock](#)