

Re: Mitochondrial oxidative stress

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From: Dr. Andrew B. Chung, MD/PhD (*nospam5_at_heartmdphd.com*)

Date: 06/06/04

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ironjustice@aol.comdoe (doe) wrote in message

news:<20040606133828.09339.00000613@mb-m03.aol.com>...

> *Mech Ageing Dev. 2004 Jun;125(6):417-20. Related Articles, Links*

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> *Mitochondrial oxidative stress can lead to nuclear hypermutability.*

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> *Hartman P, Ponder R, Lo HH, Ishii N.*

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> *Biology Department, Texas Christian University, Fort Worth, TX 76129, USA.*

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> *Reactive oxygen species (ROS) are generated in mitochondria and are thought to*

> *be important in aging, carcinogenesis, and the development of other*

> *pathologies. We now provide direct experimental evidence linking mitochondrial*

> *ROS generation to the induction of nuclear DNA damage and subsequent*

> *mutagenesis of a chromosomal gene. Specifically, we demonstrate that the mev-1*

> *mutant of Caenorhabditis elegans has elevated levels of oxidative damage in its*

> *chromosomal DNA. This mutant was shown previously to overproduce ROS in its*

> *mitochondria. We also show that mutation frequencies were higher in the mev-1*

> *mutant under hypoxia than in the wild type strain. By extension, these data*

> *imply that mitochondrially derived ROS mutate other genes, including tumor*

> *suppressor genes and oncogenes. We propose that this three-step process*

> *(mitochondrial ROS --> nuclear DNA damage --> mutation) contributes to aging*

> *and age-associated diseases.*

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> *PMID: 15178131 [PubMed - in process]*

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> *Who loves ya.*

> *Tom*

Appreciate the citation.

This is actually relevant to the discussions in SMC, ASD, and MHD about the 2PD approach and so these groups have been added to this

thread.

How so?

The more you eat (in excess of 2 pounds per day)... the more mitochondrial ROS there will be necessarily generated (we have long known that we can double the lifespan of mammals by restricting their food intake).

A few words to the wise...

Servant to the humblest person in the universe,

Andrew

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Dr. Andrew B. Chung, MD/PhD
Board-Certified Cardiologist
<http://www.heartmdphd.com/>

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Who is the humblest person in the universe?

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