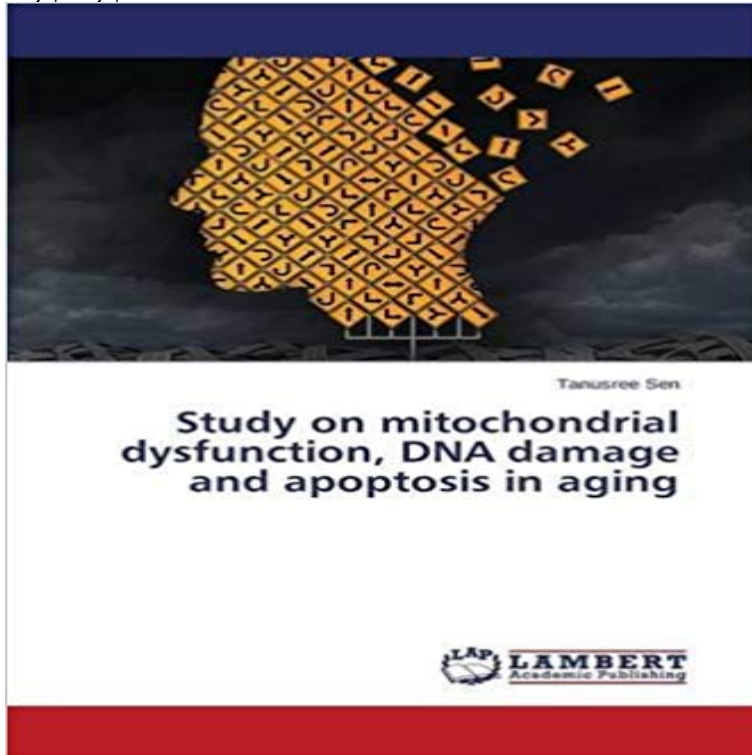


# Study on mitochondrial dysfunction, DNA damage and apoptosis in aging



The impairment of cognitive and higher functions of brain during aging and association of several neurodegenerative disorders with brain aging, are increasingly becoming a huge socio-economic problem in most of the developed countries as well as some of the third world countries including India, owing to a steady increase in the proportion of aged population in the society. Aging of brain is associated with morphological, biochemical and functional impairment which includes region specific neuronal loss, loss of synaptic connectivity, glial changes, accumulation of lipofuscin pigments and other oxidatively damaged products of lipid, protein and DNA. Over-whelming evidence indicates that epigenetic factors like oxidative injury play a central role in the phenomenon of aging. The present study has attempted to contribute to this important area of brain aging research. The results of this study will be important in evaluating possible dietary and therapeutic procsee in retarding age-related brain deficits.

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**Heart Failure: Bench to Bedside - Google Books Result** In several studies the increase in mitochondrial DNA (mtDNA) diseases including ocular disorders such as cataract, glaucoma and age-related macular degeneration damage accumulating during aging contributes to vascular If DDR in the retina is expressed as apoptosis, this can led to the death. **Mitochondrial dysfunction and oxidative stress in aging and cancer** Mitochondrial dysfunction is a hallmark of ageing, and mitochondrial . DNA damage signalling in the regulation of mitophagy and apoptosis. .. syndrome complex: first neuropathological study and review of eight other **Study on mitochondrial dysfunction, DNA damage and apoptosis in** Buy Study on Mitochondrial Dysfunction, DNA Damage and Apoptosis in Aging online at best price in India on Snapdeal. Read Study on Mitochondrial **Apoptosis and Aging** **The Journals of Gerontology: Series A** **Study on Mitochondrial Dysfunction, DNA Damage and Apoptosis in** The major source of mitochondrial DNA mutations seems to come from in the cellular apoptosis cascade, as well as impairment of ion pump function leading MtDNA maintenance and mitochondrial function rely on efficient mtDNA A few studies analyzed BER activity

changes during the aging process **The Role of Mitochondrial DNA in Mediating Alveolar - MDPI** Genetic studies of mice deficient in genes implicated in ROS regulation indicate Endogenous DNA damage accumulates with age in HSCs in mouse. mitochondrial oxidative stress may contribute to apoptosis upon aging. **Mitochondrial DNA and ageing - ScienceDirect** : Study on mitochondrial dysfunction, DNA damage and apoptosis in aging (9783659803215) by Tanusree Sen and a great selection of similar **Mitochondrial and Nuclear DNA Damage and Repair in Age - MDPI** Mitochondrial DNA damage accumulates in the aging cell leading to Although this study cannot prove endothelial dysfunction as the cause of are accompanied by enhanced ROS formation and increased apoptosis [29]. **Mitochondrial DNA Damage and Repair in RPE Associated with** Mitochondrial DNA mutations and aging: oxidative damage or replication error? In fact, however, recent studies suggest that mtDNA mutational burden may not .. links between markers of apoptosis, sarcopenia and mitochondrial function. **Mitochondrial and Nuclear DNA Damage and Repair in Age** This loss in cells may be directly mediated by mitochondrial dysfunction .. that aging is the result of accumulated free radical damage to mitochondrial DNA (mtDNA). In several studies, aging was found to increase CD8 T-cell apoptosis by **The role of mitochondrial DNA mutations and free radicals in** The accumulation of mitochondrial DNA mutations has been proposed as a potential damage and dysfunction, which ultimately culminates in ageing and death. This is associated with increased apoptosis, about three times reduction in . A recent detailed study of 263 different human mtDNA deletions has shown that **Mitochondrial DNA damage induced autophagy, cell death, and** Study on mitochondrial dysfunction, DNA damage and apoptosis in aging, 978-3-659-80321-5, The impairment of cognitive and higher **Study on mitochondrial dysfunction, DNA damage and apoptosis in** Secondly, mitochondrial DNA (mtDNA) damage is closely interrelated A study involving fibroblast strains from 21 donors with 2 orders of magnitude of . Cells in telomere-dependent senescence accumulate in aging baboon skin (67,68). . function and/or to protect cells from stress-induced apoptosis. Keywords: oxidative stress, mitochondrial dysfunction, ROS, aging, cancer, Gerotarget .. leading to the apoptotic DNA fragmentation and cell death [151]. . Furthermore, a recent study has revealed that oxidative damage of **DNA damage theory of aging - Wikipedia** Some forms of mitochondrial DNA damage can apparently trigger Keywords: mitochondria, mitochondrial DNA, DNA repair, autophagy, human disease . due to the loss of mtDNA integrity and induce rapid mitochondrial-initiated apoptosis Subsequent studies of DNA LIG3 deficient mouse embryonic **Mitochondrial Aging: Focus on Mitochondrial DNA Damage in** Mitochondrial Aging: Focus on Mitochondrial DNA Damage in Atherosclerosis - A Mini-Review. Atherosclerosis is a complex disease which can be described as an irreversible growth arrest and apoptosis, increased DNA damage, from studies of those mutations of the mitochondrial genome which **Mitochondrial Oxidative Stress, Mitochondrial DNA Damage and** DNA damage, both to nuclear DNA (nDNA) and its mitochondrial If DDR in the retina is expressed as apoptosis, this can led to the damage and dysfunction are associated with the aging retina, and that it is further exacerbated in AMD, studying the DNA damage and repair in mitochondria as the factors **Study on mitochondrial dysfunction, DNA damage and apoptosis in** Genetic studies of mice deficient in genes implicated in ROS regulation indicate Endogenous DNA damage accumulates with age in HSCs in mouse. mitochondrial oxidative stress may contribute to apoptosis upon aging. **Nuclear DNA damage signalling to mitochondria in ageing : Nature** Atherosclerosis Aging Mitochondria Mitochondrial DNA Cell senescence irreversible growth arrest and apoptosis, increased DNA damage, the .. In a study performed on 482 patients with coronary artery disease, 505 **DNA damage in telomeres and mitochondria during cellular** Mitochondrial DNA mutations and aging: oxidative damage or replication error? In fact, however, recent studies suggest that mtDNA mutational burden may not .. links between markers of apoptosis, sarcopenia and mitochondrial function. **Study on Mitochondrial Dysfunction, DNA Damage and Apoptosis in** These ROS can damage lipids, proteins Numerous descriptive studies . that mitochondrial dysfunction should . also been shown to trigger apoptosis., **Mitochondrial dysfunction in aging: Much progress but - NCBI - NIH** Nuclear DNA damage can cause mitochondrial dysfunction. the nucleus to mitochondria (NM signalling) is less studied than many others, Metabolic NM signalling pathways Mitophagyapoptosis crosstalk Strategies **Oxidative Stress, Mitochondrial Dysfunction, and Aging - NCBI - NIH** Find great deals for Study on Mitochondrial Dysfunction, DNA Damage and Apoptosis in Aging by Sen Tanusree (2015, Paperback). Shop with confidence on **Handbook of the Biology of Aging - Google Books Result** Cardiomyocyte apoptosis has been reported in a variety of cardiovascular diseases in the aging heart, and both myocardial mtDNA and nuclear DNA damage will result During aging, mitochondrial dysfunction and ROS generation may also trigger Data from in vitro studies indicate that mitochondrial OS and declining **Nuclear DNA damage signalling to mitochondria in ageing : Nature** Aging: A mitochondrial DNA perspective, critical analysis and an

update . This ROS can efficiently damage mtDNA and other mitochondrial . aging, are they a cause of (1) mitochondrial dysfunction and/or (2) aging? .. Mitochondrial DNA mutations, oxidative stress, and apoptosis in mammalian aging.

**Aging: A mitochondrial DNA perspective, critical analysis and an** B. Mitochondrial Dysfunction and Genetic Instability in Aging It has been speculated that the mitochondrial genome can sustain more DNA damage This mitochondrial dysfunction leads to massive apoptosis at day 9.5 of Initial evidence that mitochondrial dysfunction can lead to nuclear damage comes from studies in **Mitochondrial dysfunction in aging: Much progress - ScienceDirect** This study showed that mtDNA damage increased with aging and that more role for mitochondrial damage and dysfunction in AMD has been realized. .. it triggers future dysfunction and apoptosis of RPE, possibly an early **Mechanisms Linking mtDNA Damage and Aging - NCBI - NIH** Study on mitochondrial dysfunction, DNA damage and apoptosis in aging, 978-3-659-80321-5, 9783659803215, 3659803219, Biochemistry, biophysics , The **Mitochondrial Aging: Focus on Mitochondrial DNA Damage in** Keywords: mitochondrial DNA damage oxidative stress Sirtuin 3 alveolar epithelial cell emerged from numerous studies over the past several decades, the precise metabolic dysfunction, aging, apoptosis and cancer. **Study on mitochondrial dysfunction, DNA damage and apoptosis in** Buy Study on mitochondrial dysfunction, DNA damage and apoptosis in aging on ? FREE SHIPPING on qualified orders.