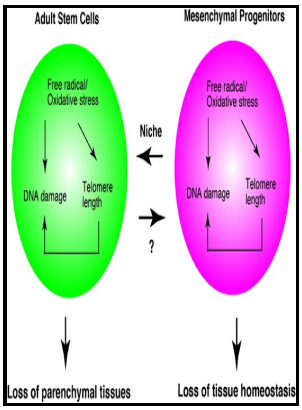
Telomeres and telomerase in aging, disease, and cancer - molecular mechanisms of adult stem cell ageing

Springer - Cancer and ageing: convergent and divergent mechanisms



Description: -
-
Criminal behavior.
Crime -- Social aspects.
Telomerase -- physiology
Neoplasms -- genetics
Cell Aging -- genetics
Aging -- genetics
Adult Stem Cells
Telomere -- physiology
Cancer -- Molecular aspects
Telomerase
Telomere
Aging -- Molecular aspectsTelomeres and telomerase in aging, disease, and cancer - molecular mechanisms of adult stem cell ageing
-Telomeres and telomerase in aging, disease, and cancer - molecular mechanisms of adult stem cell ageing
Notes: Includes bibliographical references and index.
This edition was published in 2008

Filesize: 50.55 MB

Tags: #Telomeres #in #Disease

Telomere length, stem cells and aging

In all four mouse models, telomere dysfunction and the retention of a p53-dependent DNA damage response resulted in impaired growth of tumors. Physical activity appears to protect against metabolic and psychological stress and maintain TEL.

Pan

Thus, either progressive telomere shortening or acute telomere uncapping can lead to non-reciprocal translocations through a fusion-breakage mechanism.

Adult stem cells in aging, diseases and cancer

Short telomere syndromes have a predominant degenerative phenotype marked by organ failure that most commonly manifests as pulmonary fibrosis and are associated with a relatively low cancer incidence. Mo Agric Exp Res Stn Res Bull.

Telomerase, telomerase function, telomerase in cancer & aging

Using these neonatal SMCs, they were able to create reliable human vessels, and then it becomes possible to create coronary arteries for coronary artery bypass grafting. The bar plots show the recalibrated mutation frequencies after propensity score weighting.

Biological immortality

But what is the evidence that telomere dysfunction is a relevant mechanism driving epithelial cancers in humans? In November, 2019, the first telomere-lengthening gene therapy clinical trial has started, which aims to reverse aging by at least 20 years.

Cancer and ageing: convergent and divergent mechanisms

Furthermore, rare mutations in shelterin genes coding for the proteins that protect telomere structure can produce severe dyskeratosis but do not alter telomerase repair capacity. For instance, in a murine model of telomerase deficiency and accelerated telomere attrition, researchers found that certain intracellular pathways involved in mitochondrial function and glucose metabolism were deregulated, a common occurrence in aging individuals, ultimately causing heart muscle disease.

Related Books

- Zur Verhaltensphysiologie bei Tieren und Menschen - gesammelte Abhandlungen.
- Inventions biotechnologiques - protection et exploitation : colloque organisé par lInstitut de rech
- Theology and the practice of responsibility - essays on Dietrich Bonhoeffer
- Heterosexual women changing the family - refusing to be a wife!
- Bahāʾīyah wa-judhūruhā al-Bābīyah