

Free radicals in the brain - aging, neurological, and mental disorders

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Description: -

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Free Radicals.

Brain Diseases.

Aging.

Brain -- Aging.

Brain -- Diseases -- Pathogenesis.

Free radicals (Chemistry) -- Mechanism of action. Free radicals in the brain - aging, neurological, and mental disorders

-Free radicals in the brain - aging, neurological, and mental disorders

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Free radical induced oxidative damage to DNA: relation to brain aging and neurological disorders

IGF1 has been shown in rodents to entrain similar downstream pathways to BDNF, such as the Akt signalling system.

About Free Radical Damage

Docosahexaenoic acid DHA is the most abundant omega-3 fatty acid in cell membranes in the brain ; however, the human body is not efficient at synthesizing DHA, so we are largely dependent on dietary DHA. The combined action of particular diets and exercise on the activation of molecular systems that are involved in synaptic plasticity has strong implications for public health and the design of therapeutic interventions. Thus, as predicted from an evolutionary perspective, the gut does influence the molecular mechanisms that determine the capacity for acquiring new memories and that control emotions, as well as overall mental function.

What Happens to the Aging Brain

Gut hormones associated with cognition In addition to the capacity of the gut to directly stimulate molecular systems that are associated with synaptic plasticity and learning, several gut hormones or peptides, such as leptin, ghrelin, glucagon-like peptide 1 GLP1 and insulin have been found to influence emotions and cognitive processes. In this study, 1,245 inhabitants of Leiden in the Netherlands who were at least 85 years old were genotyped for 5 SIRT1 polymorphisms during a period of 4. IGF1 also supports nerve growth and differentiation, neurotransmitter synthesis and release and synaptic plasticity , and might contribute to sustaining cognitive function after brain insults , , diabetes and aging.

About Free Radical Damage

However, another study in which subjects were maintained on an alternate-day caloric-restriction diet over a 2-month period resulted in weight loss and improved cardiovascular-disease and diabetes-risk profiles. Accumulation of neurofibrillary tangles also occurs in brains of healthy older persons. I am thankful to the reviewers for their constructive feedback, and to the National Institute of Neurological Disorder and Stroke NS50465 for funding support.

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Over thousands of years, diet, in conjunction with other aspects of daily living, such as exercise, has had a crucial role in shaping cognitive capacity and brain evolution. Our mitochondria have a number of methods for dealing with this damage, but these measures offer only temporary relief. Other vision changes of aging include: slowed adjustment to low light, decreased color discrimination, decreased depth perception, and decreased ability to detect contrast.

Free radical induced oxidative damage to DNA: relation to brain aging and neurological disorders

Diet and epigenetics A number of innovative studies are pointing to the exciting possibility that the effects of diet on mental health can be transmitted across generations.

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