

# Role of Antioxidants in Anti-aging- Review †

Roghith Kannan <sup>1</sup>, R.Gayathri <sup>1,\*</sup>, V.Vishnupriya <sup>1</sup>

<sup>1</sup> Department Of Biochemistry, Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai 77

\* Correspondence: [gayathri.jaisai@gmail.com](mailto:gayathri.jaisai@gmail.com);

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**Abstract:** Intracellular and extracellular oxidative stress initiated by reactive oxygen species (ROS) play a major role in skin aging, characterized by wrinkles and atypical pigmentation. Although the free radical theory is widely accepted among scientists, certain conflicts regarding the aging process are confronted by clinicians. The free radical theory of aging hypothesizes that damage at the cellular and tissue levels is caused due to oxygen-derived free radicals responsible for the age-related changes. In a normal situation, a balanced equilibrium exists among oxidants, antioxidants, and biomolecules. Excess generation of free radicals leads to oxidation and further contributing to cellular functional impairment, and these radicals may overwhelm natural cellular antioxidant defenses. The identification of free radical reactions as promoters of the aging process implies that interventions aimed at limiting or inhibiting them should reduce the rate of formation of aging changes with a consequent reduction of the aging rate and disease pathogenesis. The free radicals present to bring about a change in the aging process as they inhibit the formation of free radicals, which brings about a consequent change in the aging rate. This paper reviews data regarding the effects of antioxidants on the anti-aging process and longevity. The role of low molecular weight antioxidants and their role in aging and the effects on cardiovascular diseases and cancer were also discussed.

**Keywords:** antioxidant; free radical; anti-aging.

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