

Special Issue on Salivary Redox Homeostasis and Oxidative Stress

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The oral cavity is subjected to many biological, chemical, and physical factors such as xenobiotics, air pollutants, food, and pathogenic microorganisms. Therefore, the oral environment is particularly susceptible to oxidative stress, defined as an imbalance between the formation of reactive oxygen species (ROS) and the impaired function of the antioxidant defense systems. It is not surprising that saliva produced by salivary glands is a rich source of enzymatic and nonenzymatic antioxidants including salivary peroxidase (Px), catalase (CAT), superoxide dismutase (SOD), and myeloperoxidase, as well as uric acid, albumin, transferrin, and ceruloplasmin. The oral cavity is thus the first defense of the body against ROS overproduction and associated oxidative damage.

Oxidative stress plays a key role in the pathogenesis of many systemic and oral diseases. Interestingly, this process also impairs the secretory function of the salivary glands. Indeed, disturbances in salivary flow and salivary secretion have been demonstrated in subjects with obesity, diabetes, chronic kidney disease, Sjogren's syndrome, or neuropsychiatric disorders, which can also explain the increased incidence on xerostomia, periodontitis, precancerous conditions, and cancer of the oral cavity in these groups of patients. Additionally, the results of recent studies indicate the usefulness of various oxidative stress biomarkers in the diagnosis of many pathological conditions; however, saliva is an especially attractive diagnostic material, in particular when compared to blood or cerebrospinal fluid. Nevertheless, still little is known about the salivary redox homeostasis both in healthy subjects and in the course of many systemic and oral diseases. Additionally, there is a lack of research on the impact of antioxidant supplementation on oxidative stress both at the central level and at salivary redox balance.

In this special issue, we will focus on recent advances in the contribution of oxidative stress to salivary redox homeostasis and function of the salivary glands. Novel ideas to discover further salivary redox biomarkers and potential applications will also be described. We welcome original research and review articles.

Potential topics include but are not limited to the following:

- ▶ Salivary antioxidant defense and oxidative damage in oral and systemic diseases
- ▶ Crosstalk between salivary and central redox homeostasis
- ▶ Mechanisms underlying the impaired function of the salivary glands in oxidative stress-related diseases
- ▶ Salivary redox biomarkers in the diagnosis of oral and systemic diseases
- ▶ The effects of antioxidant supplementation on salivary and central redox balance
- ▶ Mechanisms underlying the effects of natural and synthetic antioxidants on salivary redox systems
- ▶ Animal models to study salivary oxidative stress
- ▶ Salivary redox homeostasis in human health

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/srhos/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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