Oxidative Stress tests

At **Diagnostiki Athinon**, a laboratory highly specialized in innovative preventive tests, we carry out all measurements related to oxidative stress and the body's antioxidant defense.

Total Antioxidant Capacity (TAC)

Total Oxidative Stress (TOS)

Enzymatic Antioxidant Systems

- Superoxide Dismutase (SOD)
- Catalase
- Glutathione Peroxidase

Non-Enzymatic Antioxidant Systems

- Vitamins A, E, C
- Glutathione
- α-Lipoic Acid, Coenzyme Q10
- Selenium, Copper, Zinc

Oxidative Damage of Biomolecules

- DNA damage (8-OH-DG
- Lipid Damage (MDA-TBARS)
- Protein Damage (3-Nitrotyrosine)

DetoxScan® Profiles

Oxidative Stress Basic Profile

Total Antioxidant Capacity, Total Oxidative Stress, Catalase, Glutathione

Oxidative Stress Comprehensive Profile

Total Antioxidant Capacity, Total Oxidative Stress, Superoxide Dismutase, Glutathione Peroxidase, Catalase, Vitamin E, Vitamin C, Coenzyme Q10, α-Lipoic Acid, Glutathione

Oxidative Biomolecule Damage Profile

Malondialdehyde (MDA-TBARS), 8-Hydroxy-Deoxyguanosine (8-OH-DG), 3-Nitrotyrosine

What causes Oxidative Stress?

Oxidative Stress is involved in the pathogenesis of more than 100 pathological conditions, including:

- Aging
- Cardiovascular Diseases
- Neurodegenerative Diseases (Parkinson's & Alzheimer's Disease)
- Diabetes
- Arthritis
- Cancer
- Autoimmune Diseases
- Asthma
- Infertility
- Macular Degeneration & Cataract
- Chronic Fatigue Syndrome
- Lung diseases
- Liver diseases
- Psoriasis and other skin diseases

Diagnostiki Athinon is a laboratory certified with **ISO 9001:2015**

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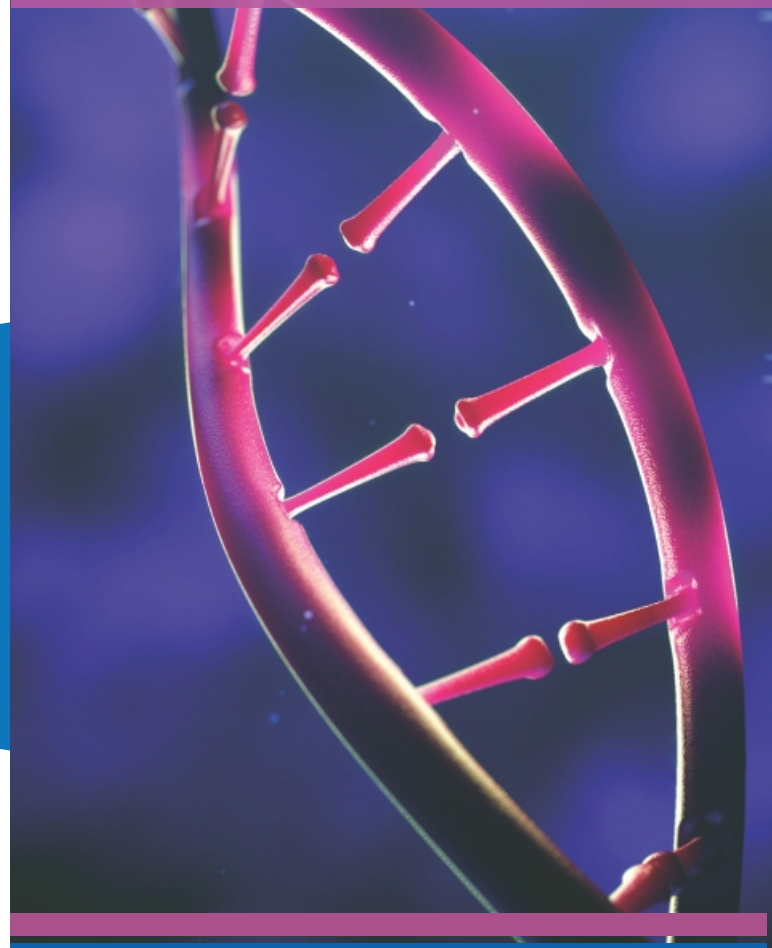
DetoxScan®

TEST OF OXIDATIVE STRESS AND ORGANISM'S ANTIOXIDANT DEFENSE



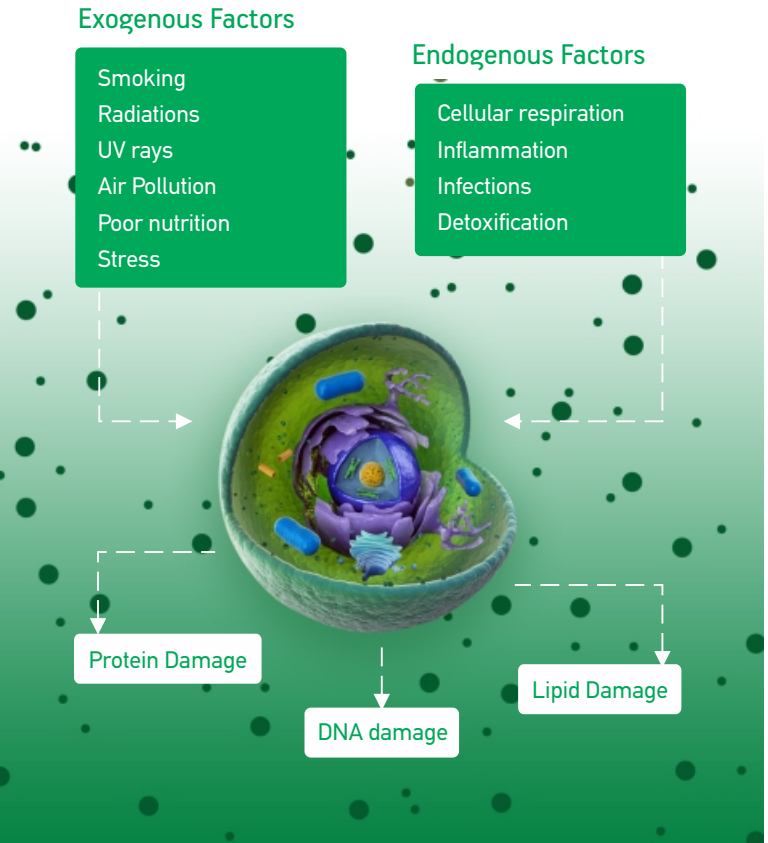
Protect yourself from premature aging, cancer, and more than 100 diseases

What are Oxygen Free Radicals?

Oxygen is an essential element of life. The human body produces energy by combining oxygen with the food it consumes.

The result of this internal combustion process in the body, in addition to the production of energy in the mitochondria, is the creation of by-products called **reactive oxygen species (ROS) and reactive nitrogen species (RNS)**. Oxygen radicals are very reactive molecules and can oxidize the functional molecules of the cell, i.e., lipids, proteins, and DNA, changing their structure and causing **oxidative damage** to the cell.

Reactive free radicals can also come from exposure to **environmental pollutants** such as exhaust gases and cigarette smoke, alcohol, exposure to ionizing radiation, infections, and medications.



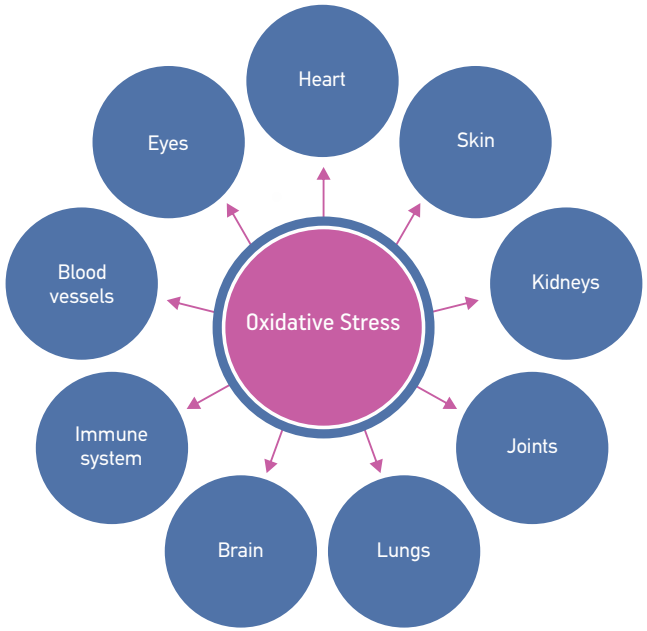
What is Oxidative Stress?

The human body normally uses a part of the oxygen free radicals in its various functions, for example in the fight against infections. The use of free oxygen radicals for the benefit of the organism and the simultaneous protection of the remaining molecules is achieved using **antioxidant defense systems**.

Antioxidant defense mechanisms include **antioxidant enzymes** (e.g., dismutase, catalase) and **antioxidant non-enzymatic systems** (e.g., vitamins C and E, glutathione, etc.).

When the production of free radicals exceeds the regulatory capacity of antioxidant systems, then oxidative damage occurs in the cell and in the organism and this situation is described as **Oxidative Stress**.

Oxidative Stress has been linked to **Aging** and **more than 100 different diseases**.



How is Oxidative Stress Measured?

The presence of Oxidative Stress can be assessed objectively in **three ways**:

1. The direct measurement of oxygen and nitrogen free radicals
2. The measurement of the damage caused by free radicals to biomolecules
3. Measuring the adequacy of the body's antioxidant systems

The evaluation of the balance between Oxidative Stress and Antioxidant Defense as well as the evaluation of the Oxidative Damage of the organism, are measured in a scientific way by objective laboratory methods. Only in this way do the therapeutic interventions achieve the maximum possible results.

The results of the measurements of the oxidative stress parameters, together with the clinical examination and the patient's history, are used to evaluate the state of the organism and determine the **antioxidant therapy**.

Measure Oxidative Stress, Control Oxidation, Reverse Aging

What is Antioxidant Therapy?

Antioxidant therapy focuses on interventions aimed at balancing oxidative stress and **preventing** the onset or **reversing** the manifestations of diseases related to oxidative stress. Antioxidant therapy focuses on:

- Appropriate lifestyle changes (exercise, smoking, sleep, etc.)
- In the diet using suitable foods
- Taking appropriate nutritional supplements