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Oxidative Stress

Oxidative Stress Assays

Oxidative stress is often defined as an imbalance of pro-oxidants and antioxidants. All forms of life maintain a reducing environment within their cells. This reducing environment is preserved by enzymes that ensure the reduced state through a constant input of metabolic energy. Disturbances in this normal redox state can cause toxic effects through the production of a number of reactive oxygen species (ROS) which the cell is unable to counterbalance. The result is damage to one or more biomolecules including DNA, RNA, proteins and lipids.

Oxidative stress has been implicated in the natural aging process as well as in a variety of diseases like Alzheimer's disease, Parkinson's disease, cancer, diabetes, obesity and heart failure.

On the other hand, ROS can also be beneficial. They are employed by the immune system as a way to attack and kill pathogens. In addition, they are involved in cell signaling.

Selecting assays for analyzing oxidative stress begins with your samples. There are many markers of oxidative stress, but some are more easily detected in certain sample types (cells, tissues, urine, blood, etc.). A broad portfolio of sensitive, easy-to-use assays to quantify oxidative stress in your sample of interest is offered.

www.biocat.com/oxidative_stress

- DNA Damage
- Lipid Peroxidation
- Protein Oxidation
- Reactive Oxygen Species
- Antioxidants

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