oxisperm®

halotech®

Detection of oxidative stress excess

oxisperm® allows the detection and semi-quantitative assessment of oxidizing substances, such as reactive oxygen species (ROS), present at different fractions of the ejaculate

One of the causes of sperm damage and male infertility is the presence of unbalanced reactive oxygen species (ROS) which, having different origins, have a direct impact on sperm motility and DNA integrity.

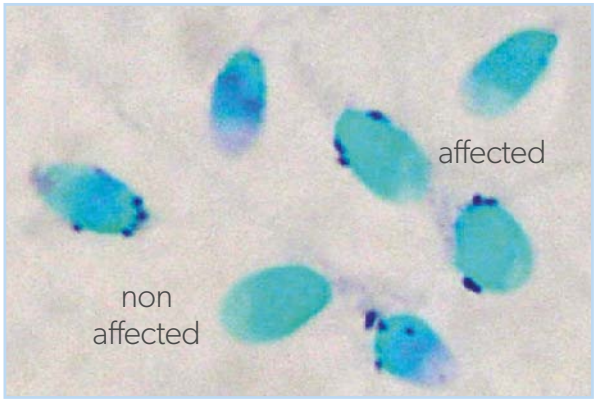
oxisperm® is an easy method for the assessment of the presence of oxidative stress in neat ejaculate, isolated spermatozoa and seminal plasma.

Oxidative stress is essentially an imbalance between the production of free radicals and the ability of the body to counteract or detoxify their harmful effects through neutralization by antioxidants.

Disturbances in the normal redox state of cells can cause toxicity induced by oxygen and oxygen-derived oxidants (i.e. superoxide radical, hydroxyl radical and hydrogen peroxide, commonly known as reactive oxygen species (ROS). Uncontrolled presence damage all components of the cell, including proteins, lipids, and DNA.

The human spermatozoon is highly susceptible to oxidative stress. This process induces peroxidative damage in the sperm membrane and DNA damage affecting both the nuclear and mitochondrial genomes.

oxisperm® provides the clinician with an easy, reliable and well established assay to measure a possible excess of superoxide anions present in the ejaculate. The test is based on the nitro blue tetrazolium (NBT) capacity to convert the salt, by the action of super oxide anions, into a water insoluble blue crystal, known as formazan *(Baehner et al. 1976; Iommiello et al. 2015; de la Casa et al. 2015).*



For more related documentation, please contact:
info@halotechdna.com or visit our website:
www.halotechdna.com/category/library/

***oxisperm*® *belongs to* *halotech Solutions*®**

oxisperm® shows differences among patients in the oxidative capacity and its cellular localization which can be associated to sperm, leukocytes, and/or seminal plasma.

The assessment of sperm DNA damage and oxidative stress provide a relatively independent measure of fertility that yields diagnostic and prognostic information complementary to, but distinct and as significant as the information derived from standard sperm parameters.

Baehner RL et al. (1976) Blood. 48: 309-13.
Iommiello VM et al. (2015) International Journal of Endocrinology. ID 321901.
de la Casa et al. (2015) JFIV Reprod Med Genet. 3:1-5.
Sperm DNA Fragmentation and Round Cells. International Journal of Endocrinology 2015, Article ID 321901

oxisperm Leaflet Version 2.0 -Oct 19 2015

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