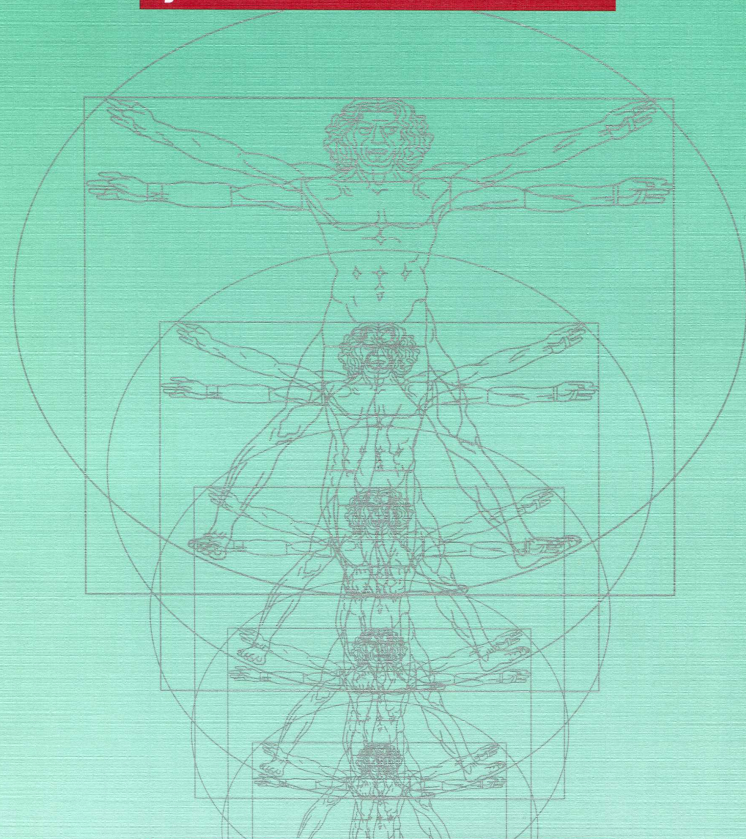


HYPOXIA MEDICAL

j o u r n a l



6th INTERNATIONAL CONFERENCE
"HYPOXIA IN MEDICINE"
 SEPTEMBER 21-23, 2006
 MILAN, ITALY

Hypoxia Medical J.

1-2/06

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HYPOXIA, FREE RADICALS AND ANTIOXIDANTS. THE "DEUTROSULFAZYME" PARADOX

The reduction of oxygen pressure (pO_2) under the normal level can lead to serious damages in cells and tissues of aerobic organisms, including humans. In particular, short periods of ischemia followed by the blood flow restoration are believed to be responsible of the so-called "ischemia-reperfusion damage", one of the most know causes of oxidative stress. Therefore, any strategy to treat the hypoxia - e. g. by means of hyperbaric oxygen - should avoid that the administered oxygen trigs the production of oxidant species *via* xantine oxidase activation.

The aim of the present study was aimed to understand, by the analysis of available scientific literature, the possible impact *in vitro* and *in vivo* of DeutrosulfazymeTM (CellfoodTM, imported and distributed in Italy by Eurodream s.r.l., La Spezia, Italy, from Nuscience Corporation, US) on redox metabolism.

DeutrosulfazymeTM is described as a non-addictive, non-invasive, and completely non-toxic proprietary colloidal-ionic formula containing finest all-natural, plant-based organic substances, including ionic minerals, enzymes, amino acids and deuterium sulphate as traces.

According to the available data *in vivo*, DeutrosulfazymeTM was shown to successfully increase muscular performance and to lower plasma oxidant status (d-ROMs test, Diacron International, Grosseto, Italy) in subjects at risk of oxidative stress, including athletes. Moreover, data *in vitro* showed that DeutrosulfazymeTM was able to increase oxygen solubility in deionised water and to reduce iron ions from ferric to ferrous ions, a recognised index of antioxidant activity (BAP test, Diacron International, Grosseto, Italy).

Taken together, these preliminary data suggests that the DeutrosulfazymeTM supplementation can be useful in the modulation of oxygen availability i) by facilitating the consumption and ii) by avoiding the unwanted side-effects of the oxygen. Further studies are in progress to clarify this apparently paradoxical effect of DeutrosulfazymeTM.

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