Tetra SOD®

Tetrasemils chuii HIGH SOD

SUMMARY SHEET

1 Fitoplancton Marino

Fitoplancton Marino, world leader in marine microalgae production

Our researchers have developed cutting edge technology that induces the accumulation of bioactive molecules up to 1,000-fold higher than any other microalgae.

Privileged market position: cutting edge technology and solid scientific knowledge

Fitoplancton Marino laboratories have developed a patent-protected process to cultivate this high antioxidant strain that allows us to reach a privileged market position, with a range of natural, vegan, sustainable products that exert a high bioactive antioxidant activity.

Fitoplancton Marino captures the spirit of the ocean for a better health

The ability of marine phytoplankton to fight against oxidative stress is one of the main factors that influence its survival in the marine environment. Microalgae have developed survival strategies based on the synthesis of highly protective antioxidant compounds.

fitoplancton marino

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2 Oxidative stress and SOD

Oxidative stress: The shift in balance between oxidants (ROS, reactive oxygen species)/antioxidants in favor of oxidants is termed "oxidative stress".

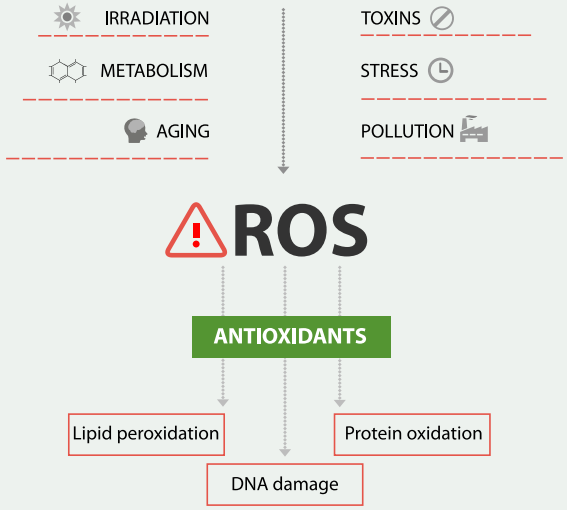

Figure 1.ROS production and neutralization. In healthy cells, ROS levels are under homeostatic control by the endogenous antioxidant defense system that includes superoxide dismutase (SOD), catalase, and glutathione peroxidase (GPx).

SOD, universal to all forms of aerobic life, is among the most potent antioxidants known in nature. The combined actions of antioxidant enzymes (see Figure 2) keep the levels of superoxide radical anion and hydrogen peroxide low.

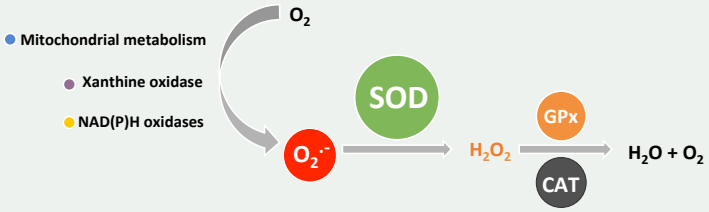

Figure 2. Action of SOD to control anion superoxide. Further reactions are needed to remove H2O2 derived from superoxide anion by catalase (CAT), and glutathione peroxidase (GPx).

The consequences of SOD depletion have been extensively researched, revealing that many disorders affecting all tissues have been directly linked to low SOD (Figure 3).

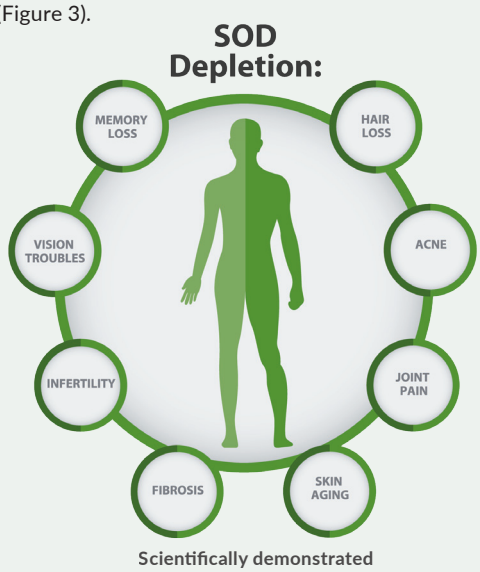

Figure 3. Disorders associated with low SOD levels.

3 TetraSOD® Much more than a SOD ingredient. Discover it!

TetraSOD® the definitive ingredient against oxidative stress

TetraSOD® is a totally natural marine vegan ingredient, produced by a sustainable patent-protected technology that has been designed exclusively by Fitoplancton Marino without the use of any chemical process of extraction or concentration, following GMP standards, ISO 22000 and FSSC 22000 certified environment.

The mechanism of action. Primary antioxidants are enzymes which continuously eliminate free radicals (they can recycle themselves and keep on removing free radicals repeatedly). Secondary antioxidants, on the other hand, can only act once against free radicals and then become saturated, without possibility of renewal.

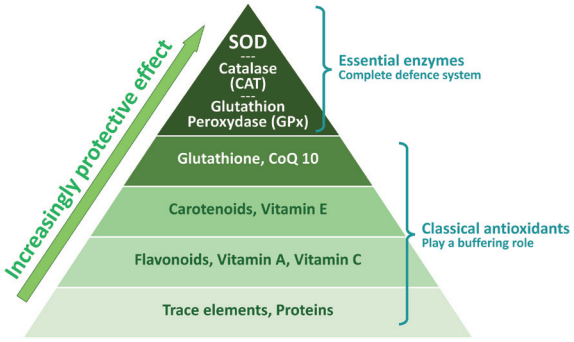

Figure 4. Power hierarchy of antioxidant pyramid.

Proven antioxidant capability: **TetraSOD®** is the most powerful antioxidant product compared to other natural products and is the highest source of SOD on the market.

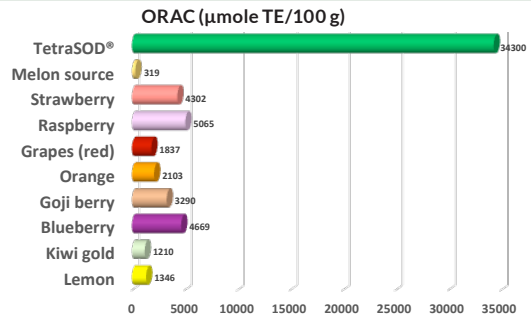

Figure 5. ORAC activity comparison: TetraSOD® and other natural products

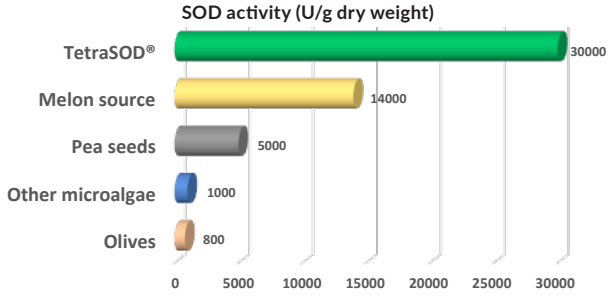

Figure 6. SOD activity comparison: TetraSOD® and other available products

Temperature stability: Fitoplancton Marino assures the quality of **TetraSOD®** even at high temperature.

TetraSOD®: SOD and much more

TetraSOD® is one of the most powerful foods on Earth, containing the three antioxidative enzymes (SOD, glutathione peroxidase and catalase), essential fatty acids, antioxidants, vitamins (C, E, B1, B2, B6, B12), minerals (Ca, Mg, P, Na, Cl, Fe, Cu), amino acids and pigments.

SOD and health

The ROS-induced oxidative stress contributes to many pathological conditions. Oxidative stress and inflammation are involved in all these diseases. It becomes clear that TetraSOD® is a promising candidate for the prevention and treatment of a wide variety of oxidative stress-mediated diseases and processes (Figure 7).

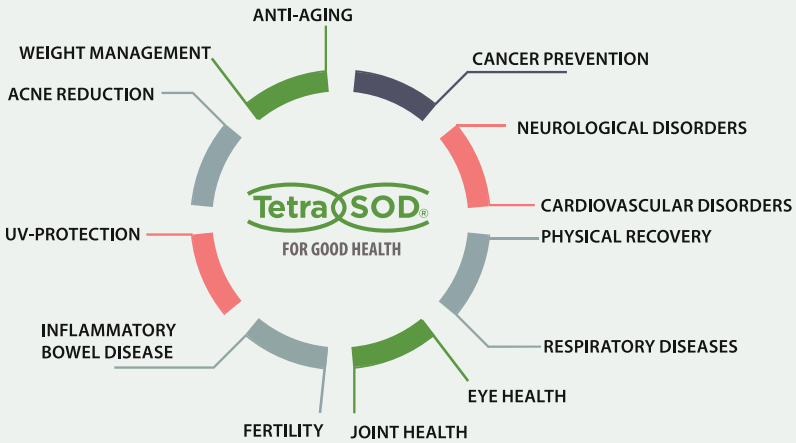

Figure 7. Proposed protective and preventive positive effects derived from TetraSOD® dietary supplementation.

SUPPORT: TetraSOD® includes a wide range of highly interesting functional food applications. Our Technical Team is committed to assist you in all your requirements.

Vegan · Patent Protected · Sustainable · Green & natural · Novel food approval · Maximun antioxidant activity · Marine source · Raw · Non-GMO

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