

# **Natural Bridges Products, Inc.**

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*You are not here merely to make a living. You are here to enable the world to live more amply, with greater vision, and with a finer spirit of hope and achievement. You are here to enrich the world. Woodrow Wilson*

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## **Report on ORAC<sub>FL</sub> Values of Artichoke/Sarsaparilla Extract, Brunswick Laboratories 2002**

Oxygen Radical Absorbance Capacity (ORAC) measures the ability of the sample being analyzed to protect against attack by free radicals, or to act as an antioxidant. Several methods have recently been developed to measure the total antioxidant capacity of biological samples, but the ORAC method is quite unique. It measures *the degree to which a sample inhibits the action of an oxidizing agent and how long the inhibiting effect lasts*. It then integrates the two measurements into a single one. This provides an accurate and reproducible measurement for different types of antioxidants having different strengths.

The ORAC procedure provides a measure of total antioxidant capacity and will measure the common nutrient antioxidants such as vitamin C, vitamin E,  $\beta$ -carotene, etc., plus a number of other naturally occurring phytochemicals, such as the flavonoids and phenolic acids. The standard of comparison in this procedure is Trolox (a water-soluble analog of vitamin E), which is defined as Trolox Equivalents (TE).

The ORAC<sub>FL</sub> analysis, which utilizes Fluorescein as the fluorescent probe, provides a measure of the scavenging capacity of antioxidants against the peroxy radical, which is one of the most common reactive oxygen species (ROS) found in the body.

<b>Sample</b>	<b>ORAC<sub>FL</sub></b> ( $\mu$ mole TE/g)	<b>Phenolics</b> (mg/g)
Artichoke / Sarsaparilla Extract	1,963	70.9

### **ORAC<sub>FL</sub> Value of Various Fruits**

Apple	9
Cherry	20
Grape	23
Cranberry	29

Raisin	31
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**ORAC<sub>FL</sub> Value of Various Fruits (contd.)**

Strawberry	37
Prune	51
Grape Skin	79
Blueberry	84
Bilberry	111
Elderberry	161
Grape Seeds	360
Elderberry Extract	876
Wild Bilberry Extract	1528
Artichoke/Sarsaparilla	1963
Wild Blueberry Extract	5467

There is much being studied and written in the scientific world about antioxidants, phytochemicals, and nutraceuticals, with a tremendous amount of research underway to determine the role that specific antioxidants play in protecting the body from harmful free radicals. Free radicals are atoms or groups of atoms that can cause damage to cells, impair the immune system, lead to infections and various degenerative diseases such as heart disease and cancer. These free radicals can be caused by exposure to radiation, toxic chemical exposure, and various metabolic processes. Free radicals are kept in check by the action of antioxidants. Antioxidants neutralize free radicals.

Although antioxidants can be obtained from food sources, such as fresh fruits and vegetables, it is difficult to obtain all that we need in our daily diets. It is also known that it is best to take various types of antioxidants, not just one, since they work synergistically to minimize free radical damage.