

## ANTIOXIDANTS

*(Beyond Health Products are in Bold; see our website at [beyondhealth.com](http://beyondhealth.com) for more information on these products)*

Oxidation is a normal biochemical reaction in the body. For example, it is necessary to create energy from the food we eat; it's also used to kill invading pathogens. However it can have damaging effects. Oxidation creates free radicals - reactive molecules that can damage DNA, cells and body tissues. These free radicals are kept in check with antioxidants that the body itself synthesizes, such as glutathione and superoxide dismutase (SOD), as well as with antioxidants from our foods and supplements.

Stress and toxicity in modern life have vastly increased our need for antioxidant protection. Chronic illness and chronic inflammation also increase the need. Heavy exercise burns more fuel; this creates additional oxidative stress, requiring greater antioxidant protection.

A diet rich in fruits and vegetables naturally supplies antioxidants. The gold standard for measuring antioxidant capacity is the ORAC unit. ORAC stands for oxygen radical absorbance capacity, or the ability to stabilize and neutralize the harmful effects of free radical damage. The body requires at least 3,000 to 5,000 ORAC units per day under normal circumstances, and much more under any kind of stress, including vigorous exercise and environmental toxicity. Here is a list of the top-scoring fruits and vegetables by ORAC score:

### Top Scoring Fruits and Vegetables – ORAC Units per 100 grams (about 3-1/2 ounces)

Prunes	5770	Raspberries	1220	Red grapes	739
Raisins	2830	Brussels sprouts	980	Red bell pepper	710
Blueberries	2400	Plums	949	Cherries	670
Blackberries	2036	Alfalfa sprouts	930	Kiwi	602
Kale	1770	Broccoli flowers	890	Pink Grapefruit	483
Strawberries	1540	Beets	840	Onion	450
Spinach	1260	Oranges	750	Corn	400
				Eggplant	390

Culinary Herbs are also often high in antioxidants, such as the following:

Annatto	Fennel	Rosemary
Basil	Garlic	Saffron
Cardamon	Ginger	Sage
Cilantro	Mint	Tarragon
Cinnamon	Nutmeg	Thyme
Cloves	Oregano	Turmeric
Cumin	Paprika	

\*This has not been evaluated by the FDA. This is not intended to diagnose, treat, cure, or prevent any disease.



**Green and White Teas** are high in antioxidants. The green and white tea we carry at Beyond Health is especially high. A 60-second brewed cup of our green tea will yield approximately 3,000 ORAC units; white tea will yield somewhat more. You must use water that is chlorine-free to get this effect since chlorine destroys antioxidants.

However, because the body's need for antioxidants is so high today, due to environmental toxicity, food sources are no longer enough, and it is best to take an array of antioxidant supplements. Different antioxidants have different functions and they tend to work synergistically. Often one antioxidant nutrient will help to regenerate another.

There are five different types of free radicals. Whereas most antioxidants and antioxidant products address one or more of these types, our **Age Defense Formula** combines different antioxidants to provide protection against all five.

Our favorite antioxidant is vitamin C. **Vitamin C** is involved in more biochemical reactions than any other vitamin and has more than 300 functions in the body. It is a key antioxidant that synergizes with and regenerates most of the other antioxidants. This is why we include vitamin C in our most basic Life Essentials kit. Because vitamin C is water soluble and lasts only a few hours in the body, it's best to take it frequently. See separate handout on "Taking Vitamin C to Bowel Tolerance."

**Vitamin E** is the most important of the fat-soluble antioxidants. As a fat-soluble antioxidant, it can go places that C can't. Even so, it works together with C and is especially important in protecting against heart disease by preventing the oxidation of cholesterol in artery linings.

Carotenes, such as beta carotene, alpha carotene, cryptoxanthin, zeaxanthin and lutein, are antioxidants that confer many health benefits, however they must be in their natural form. The synthetic carotenes in most supplements have not shown the same benefits and, in some cases, have even been found to be harmful. Our **Carotene Formula** provides the above carotenes in their natural forms.

Our **Cell Repair Formula** contains the potent plant antioxidants quercetin dihydrate and OPC (oligoproanthocyanidins) which help reduce inflammation and promote injury repair.

Glutathione is the body's most important antioxidant. Unfortunately it gets easily broken down if taken orally. Taking its precursors instead increases the body's own glutathione production. These precursors are found in **Thiodox**.

**Curcumin** increases body glutathione and is, on its own, an antioxidant.

Silymarin (milk thistle) in **LivaGuard** is a potent antioxidant and liver protector/regenerator.

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Beyond Health's **Cell Detox Formula** provides several important sulfur-containing antioxidant compounds, as do **Aged Garlic Extract** and **MSM**.

**CoQ10**, an enzyme crucial in energy production that tends to decline with age, is also a powerful antioxidant that protects the cells' energy factories, the mitochondria.

The fat soluble vitamins A , D and K are also important antioxidants. See **Cod Liver Oil**, **Vitamin D3 Formula**, and **Bone Support**.

Some minerals support antioxidants, such as manganese, **selenium** and **zinc**. These can be found in our **Multi-Vitamin** and **Bone Support**.

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