

Types of Antioxidants and their Effects

There are three main types of antioxidants, outlined below.

A: Enzymes

B: Vitamins

C: Phytochemicals

A: Enzymes

Antioxidant enzymes are antioxidants that can be uniquely synthesized in the human body. They are made from the protein and minerals in the food we eat. It is important to have good quality protein and minerals in our daily food.

B: Vitamins

Vitamins cannot be created in our bodies. Vitamins need to be supplemented every day, without fail. The typical antioxidant vitamins are vitamins A, C, E, and M (folic acid) etc.

C: Phytochemicals

Phytochemicals are antioxidants created by many plants to protect themselves and it has been found that if people ingest these plants the phytochemicals also work as antioxidants within our bodies.

Plants are bathed in UV light from sunup to sundown and a large number of free radicals are generated within plants every day. If those free radicals are left alone, the plant will soon wither and die so plants have developed various antioxidants using methods unique to each species. Each year new antioxidant plants are being found and there are already many thousands of types. The following table shows some of the main types.

(Source: <http://ja.wikipedia.org> and <http://www.kagome.co.jp>)

Broad classification	Sub-category	Typical plant	Typical actions
Polyphenols	anthocyanins	Blueberry	Reduces eye strain, improves reduced vision, improves liver function
	isoflavone	soybeans	Improves menopause disorders Prevents osteoporosis
	catechin	tea	Antibacterial effects, anti-inflammatory effects
	Rutin	<i>Soba</i> buckwheat noodles	Improves arteriosclerosis
Terpenoid	rikopin	tomatoes	Prevents cancer, suppresses arteriosclerosis
	lutein	spinach	(Effective against) Macular degeneration

Organic sulfur compounds	allicin	onions	Prevents arteriosclerosis, reduces fatty deposits
	sulforaphane	broccoli	Neutralizes of carcinogenic substances, kills pylori bacteria, promotes metabolism
Sugar-related compounds	saponin	soybeans	Suppresses cholesterol absorption
	beta-glucan	agaricus	Immune activation action
Long-chain alkylphenol derivatives	capsaicin	cayenne pepper	Promotes metabolism