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What we're covering today

- What are free-radicals and why do we need antioxidants?
- Why do plants contain antioxidants?
- Antioxidant foods vs isolated antioxidant nutrients
- About Berry Radical Antioxidant Superfood
- What are ORAC units and how many do we need?
- Berry Radical vs other antioxidant foods

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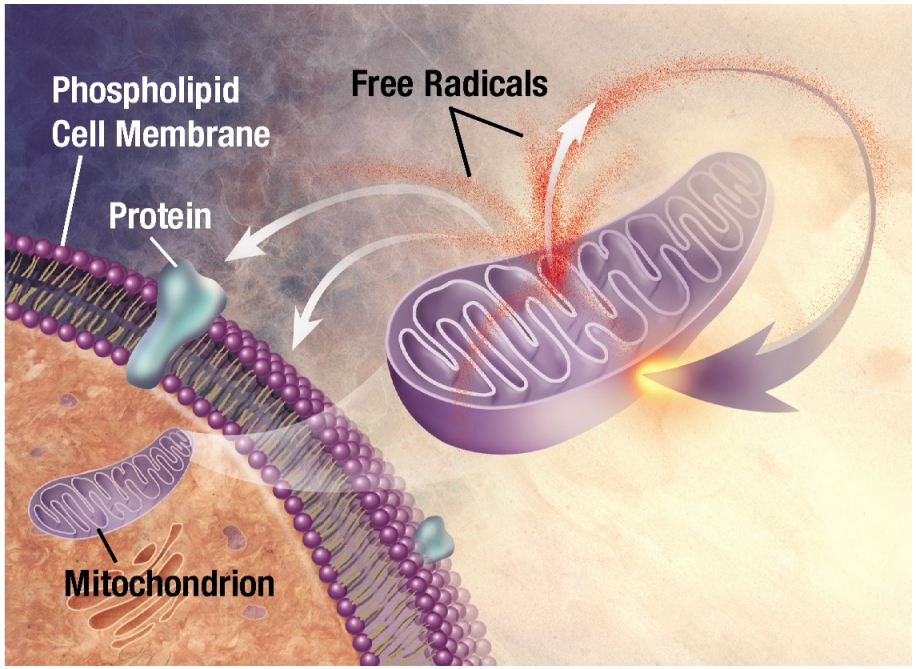
What Are Free Radicals And Why Do We Need Antioxidants?



http://www.nia.nih.gov/NR/rdonlyres/AE24CE11-8C54-4FA6-9CD3-B1D11F83550C/0/FREERADICAL_HIGH.JPG

Free radicals damage cells and DNA.

Produced by natural body processes.

Introduced via tobacco smoke, toxins, pollutants and sub-optimal eating habits.

Thought to cause cancer, cardiovascular disease, rheumatoid arthritis, chronic fatigue, and age-related diseases.

Antioxidants in fruits and vegetables help to neutralise free radicals.

Less than 20% Australians eat their daily 7 serves fruits and vegetables.

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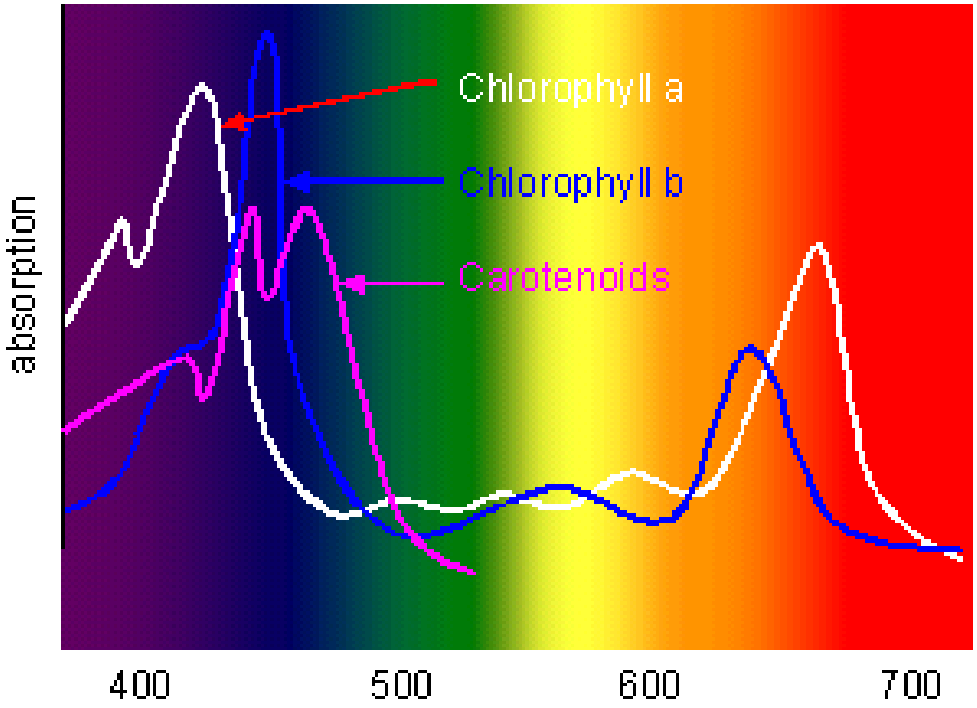
Why Do Plants Contain Antioxidants?



http://faculty.clintoncc.suny.edu/faculty/michael.gregory/files/bio%20101/Bio%20101%20Lectures/Photosynthesis/photosyn.htm

Photosynthesis - exposes plants to a massive number of free radicals. Light energy from the sun is converted to stored physical energy.

Plants produce antioxidant pigments to protect themselves from damage.

Antioxidants are responsible for the bright colours of many orange, red, blue, purple fruits, berries and algae.

Ingesting plant-based antioxidants protects from free radicals.

Antioxidants work synergistically (combined effect is greater than the sum of the individual effects).

Far more effective when a spectrum of antioxidants are ingested.

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Isolated Antioxidant Nutrients vs Antioxidant Foods

www.fbi.gov/hq/lab/labannual05/labannual05.htm

www.pachd.com/free-images/food-images.html

Isolated nutrients can have benefits in vitro (test tube) they rarely have significant benefits in vivo (humans).

Foods high in antioxidants have proven benefits in both humans and in vitro.

Fruits and vegetables can help prevent cancers, coronary heart disease and strokes.

Every large clinical trial that has used isolated antioxidant nutrients has failed to show benefit for cancer and cardiovascular disease.

Most isolated antioxidant nutrients are chemically and structurally different to those found in foods.

Research has found that whole tomato powder but not lycopene, a carotenoid found in tomatoes, inhibited prostate carcinogenesis in rats.

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Berry Radical Antioxidant Superfood

A potent combination of 9 of the worlds most potent, antioxidant, superfoods.

Contains certified organic, antioxidant-rich raw cacao, fruits and berries to support healthy immune function and protect cells.

Contains a wide spectrum of nature's most powerful antioxidants: *hydroxytyrosol, zeaxanthin, alpha and beta-carotene, lutein, lycopene, anthocyanin, cryptoxanthin, xanthophyll, epicatechin, quercetin, punicalagins and ellagic, chlorogenic, gallic, ferulic and caffeic acids* from organically grown chocolate, berries, and fruits.

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Raw Cacao

Contains catechin, epicatechin and gallic acid.

Protection to cardiovascular health.

Vasodilation protects against thrombosis and hypertension.

Provides more than 21 times the free radical protection of green tea.

"Cocoa has more phenolic phytochemicals and a higher antioxidant capacity than teas and red wine." J Agric Food Chem. 2003

"Chocolate is a powerful ex vivo and in vivo antioxidant, an antiatherosclerotic agent in an animal model, and a significant contributor to antioxidants in the European and American Diets." J Agric Food Chem. 2006

"The effect of flavanol-rich cocoa on the fMRI response to a cognitive task in healthy young people." J Cardiovasc Pharmacol. 2006

"The anti-inflammatory properties of cocoa flavanols." J Cardiovasc Pharmacol. 2006

"Effect of dark chocolate on arterial function in healthy individuals." Am J Hypertens. 2005

"Cocoa antioxidants and cardiovascular health." Am J Clin Nutr. 2005

"Ingestion of proanthocyanidins derived from cacao inhibits diabetes-induced cataract formation in rats." Exp Biol Med (Maywood). 2004

"Flavanols and procyanidins of cocoa and chocolate inhibit growth and polyamine biosynthesis of human colonic cancer cells." Cancer Lett. 2002

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Cacao and Magnesium

Richest source of magnesium of any common food.

Magnesium is vital for over 300 enzyme systems in the body – more than iron and zinc combined.

Nearly 70% of the population is deficient in magnesium!


Raw Cacao

<u>Magnesium is beneficial for:</u>

- **Cardiovascular system**
- **Asthma**
- **Muscle pain and cramps**
- **Kidney stones**
- **Tension headaches**
- **PMS**

Symptoms like abdominal bloating, breast pain, headaches, fatigue, fluid retention, mood swings, insomnia and anxiety are all symptoms of magnesium deficiency and PMS!

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Raw Coffee Fruit Concentrate

Contains polyphenols, chlorogenic, caffeic and ferulic acid.

Develop powerful antioxidants to protect from damage caused by sun's radiation at high altitude.

One gram of our raw coffee fruit concentrate provides the same free radical protection as over two kilograms of grapes.

"Inhibition of DNA methylation by caffeic acid and chlorogenic acid, two common catechol-containing coffee polyphenols." Carcinogenesis. 2006

"In vitro and ex vivo antihydroxyl radical activity of green and roasted coffee." Agric Food Chem. 2004

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Raw Coffee Fruit Concentrate and Glyconutrition

Glyconutrients make up nearly 50% of the coffee berry. Roasting destroys them; so not found in traditional coffee.

Emerging science has suggested that glyconutrients are essential to life and are essential for our immune systems to function properly.

Raw coffee fruit concentrate releases unusually high levels of gluconutrients during digestion.

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Olive juice

Contains hydroxytyrosol. The strongest natural antioxidant compound ever found!

Olive juice contains 300 times more antioxidants than olive oil.

Protects against:
- **cancer**
- **cardiovascular disease**

"Free radical-scavenging properties of olive oil polyphenols," Biochemical and Biophysical Research Communications 1998

"Cancer chemoprevention by hydroxytyrosol isolated from virgin olive oil through G1 cell cycle arrest and apoptosis." Eur J Cancer Prev 2002

"Olive phenol hydroxytyrosol prevents passive smoking-induced oxidative stress." Circulation 2000

"Biological effects of hydroxytyrosol, a polyphenol from olive oil endowed with antioxidant activity." Advances in Nutrition and Cancer 2. 1999

"Antioxidant and anti-atherogenic activities of olive oil phenolics." Int J Vitam Nutr Res. 2005

"Hydroxytyrosol, a natural antioxidant from olive oil, prevents protein damage induced by long-wave ultraviolet radiation in melanoma cells." Free Radic Biol Med. 2005

"Olive oil hydroxytyrosol protects human erythrocytes against oxidative damages." J Nutr Biochem. 1999

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Açaí Berry

Contains anthocyanins.

Anthocyanins, in red wine, are thought to contribute to the "French paradox".
i.e. France has low incidence of heart disease despite the prevalence of smoking and a diet high in saturated fat and cholesterol.

Açaí contains anthocyanins at 10-30 times the concentration of red wine.

Radiation-protective, chemo-protective, vaso-protective and anti-inflammatory.

"Oxygan Radical Absorbance Capacity of Anthocyanins." J. Agric. Food Chem. 1997

"Analysis and biological activities of anthocyanins." Phytochemistry. 2003

"Phytochemical and nutrient composition of the freeze-dried amazonian palm berry, Euterpe oleraceae mart. (acai)." J Agric Food Chem. 2006

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Goji Berry

Contains zeaxanthin, beta-carotene, lutein, lycopene, cryptoxanthin and xanthophyll.

Protects against:

- **cardiovascular disease**
- **inflammatory diseases**
- **vision-related diseases**
- **cancer**

"Effect of the Lycium barbarum polysaccharides on age-related oxidative stress in aged mice." J Ethnopharmacol. 2006

"Effect of Lycium barbarum polysaccharide on the improvement of antioxidant ability and DNA damage in NIDDM rats." Yakugaku Zasshi. 2006

"Effect of lycium barbarum polysaccharide on human hepatoma QGY7703 cells: inhibition of proliferation and induction of apoptosis." Life Sci. 2005

"Neuroprotective effects of Lycium barbarum Lynn on protecting retinal ganglion cells in an ocular hypertension model of glaucoma." Exp Neurol. 2007

"Fasting plasma zeaxanthin response to Fructus barbarum L. (wolfberry; Kei Tze) in a food-based human supplementation trial." Br J Nutr. 2005

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Blueberry

Contain anthocyanins.

Anthocyanins (flavonoids), were found to have the strongest antioxidant power of 150 flavonoids tested.

Anti-inflammatory properties.

Protect both large and small blood vessels (including eyes) from oxidative damage.

"Direct vasoactive and vasoprotective properties of anthocyanin-rich extracts." J Appl Physiol. 2006

"Antioxidant properties of prepared blueberry (Vaccinium myrtillus) extracts." J Agric Food Chem. 2005

"Reversals of age-related declines in neuronal signal transduction, cognitive, and motor behavioral deficits with blueberry, spinach, or strawberry dietary supplementation." Journal of Neuroscience

"Blackberry, black raspberry, blueberry, cranberry, red raspberry, and strawberry extracts inhibit growth and stimulate apoptosis of human cancer cells in vitro." J Agric Food Chem. 2006

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Raspberry

Contains ellagic acid.

Reduces

- **heart disease**
- **birth defects**
- **liver problems**
- **wound healing time**
- **cancer**

"Inhibition of cancer cell proliferation in vitro by fruit and berry extracts and correlations with antioxidant levels." J Agric Food Chem. 2004

"Experimental evidence for cancer preventive elements in foods." Cancer Lett. 1997

"Effect of ellagic acid, a natural polyphenol, on alcohol-induced prooxidant and antioxidant imbalance: a drug dose dependent study." Singapore Med J. 2007

"Antioxidant and apoptosis inducing activities of ellagic acid." Anticancer Res. 2006

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Strawberry

Contains quercetin, ellagic acid and anthocyanins.

Protects against:

- **colon, breast, ovarian and gastrointestinal cancer**
- **strokes**
- **cataracts**
- **virus'**
- **allergies**

"Antioxidant and antiproliferative activities of strawberries." J Agric Food Chem. 2003

"Quercetin Prevents Oxidative Stress in Cirrhotic Rats." Dig Dis Sci. 2007

"Protection by quercetin and quercetin-rich fruit juice against induction of oxidative DNA damage and formation of BPDE-DNA adducts in human lymphocytes." Mutat Res. 2005

"The role of polyphenolic compounds in the diet as inhibitors of platelet function." Proc Nutr Soc. 2003

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Pomegranate

Contains punicalagins and ellagic acid.

Beneficial for:

- **artherosclerosis**
- **heart disease**
- **osteoarthritis**
- **prostate cancer**

"Punica granatum (pomegranate) and its potential for prevention and treatment of inflammation and cancer." J Ethnopharmacol. 2007

"Cholesterol-lowering effect of concentrated pomegranate juice consumption in type II diabetic patients with hyperlipidemia." Int J Vitam Nutr Res. 2006

"Polyphenols from green tea and pomegranate for prevention of prostate cancer." Free Radic Res. 2006

"Prostate cancer prevention through pomegranate fruit." Cell Cycle. 2006

"Effects of pomegranate juice consumption on myocardial perfusion in patients with coronary heart disease." Am J Cardiol. 2005

"Pomegranate juice consumption for 3 years by patients with carotid artery stenosis reduces common carotid intima-media thickness, blood pressure and LDL oxidation." Clin Nutr. 2004

"Pomegranate juice consumption inhibits serum angiotensin converting enzyme activity and reduces systolic blood pressure." Atherosclerosis 2001

"Punica granatum L. extract inhibits IL-1beta-induced expression of matrix metalloproteinases by inhibiting the activation of MAP kinases and NF-kappaB in human chondrocytes in vitro." J Nutr. 2005

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What Are ORAC Units And How Many Do We Need?

ORAC: Oxygen Radical Absorbance Capacity

Measurement of the total antioxidant power of a substance.

The more free radicals a substance can absorb, the higher it's ORAC score.

Nutritionists recommend we consume around 5000 ORAC units per day.

One serving (half a cup) of fruits or vegetables provides approx 500 ORAC units.

One serving of Berry Radical contains over **4000** ORAC units.

One tub of Berry Radical contains **123,375 ORAC** units.

To get the equivalent amount of ORAC units in one box of Berry Radical from other foods, you'd have to buy……..

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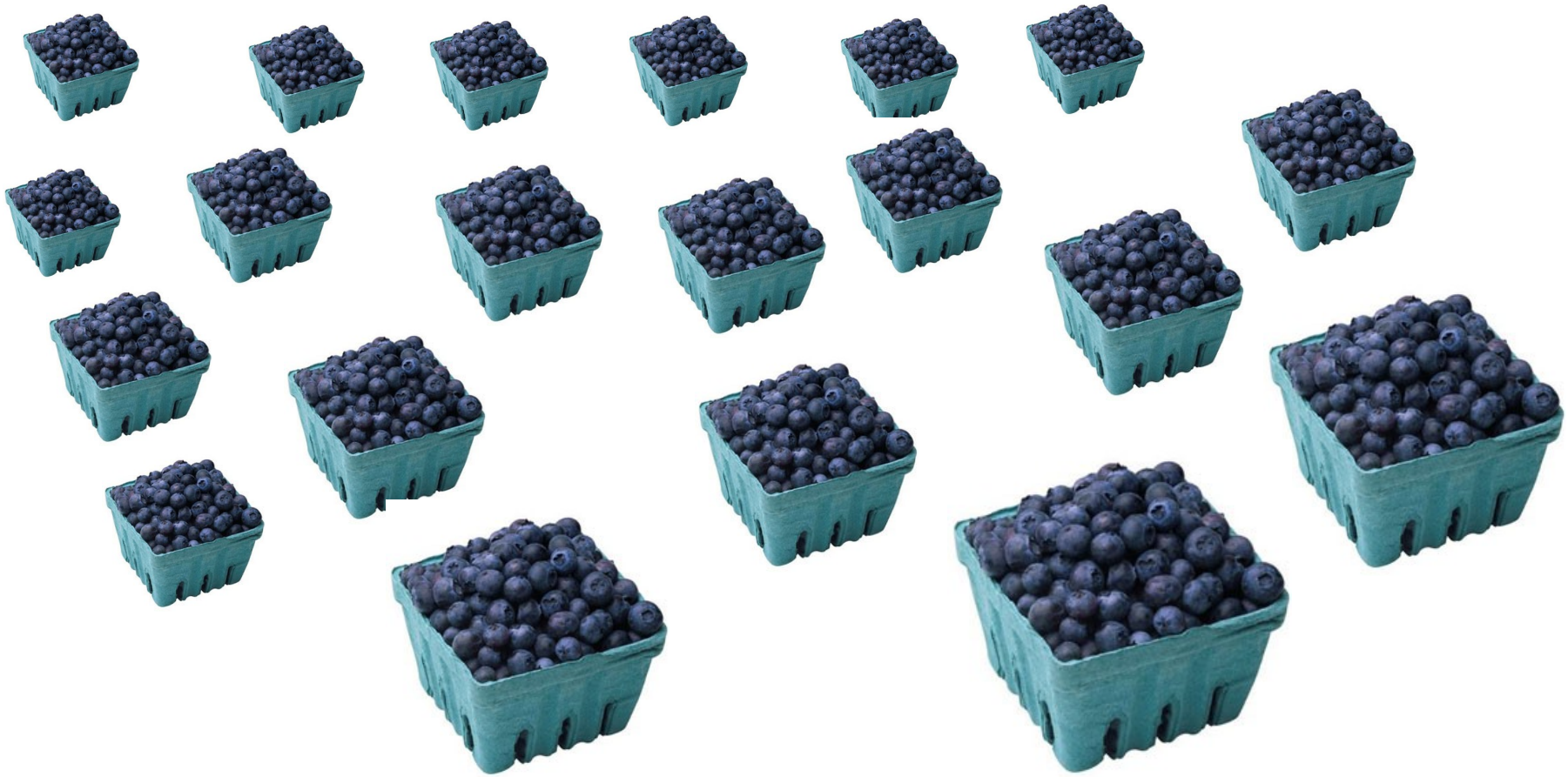
Berry Radical Antioxidant Superfood

1 tub of Berry Radical = 5 kilos of blueberries



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Berry Radical Antioxidant Superfood

1 tub of Berry Radical = 8 kilos of strawberries

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Berry Radical Antioxidant Superfood

1 tub of Berry Radical = 8 bottles of Mangosteen juice
(US ~$320)

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Berry Radical Antioxidant Superfood

1 tub of Berry Radical = 11 bottles of Goji juice (US ~$580)

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Berry Radical Antioxidant Superfood

1 tub of Berry Radical = 25 bottles of Noni juice (US ~$1000)

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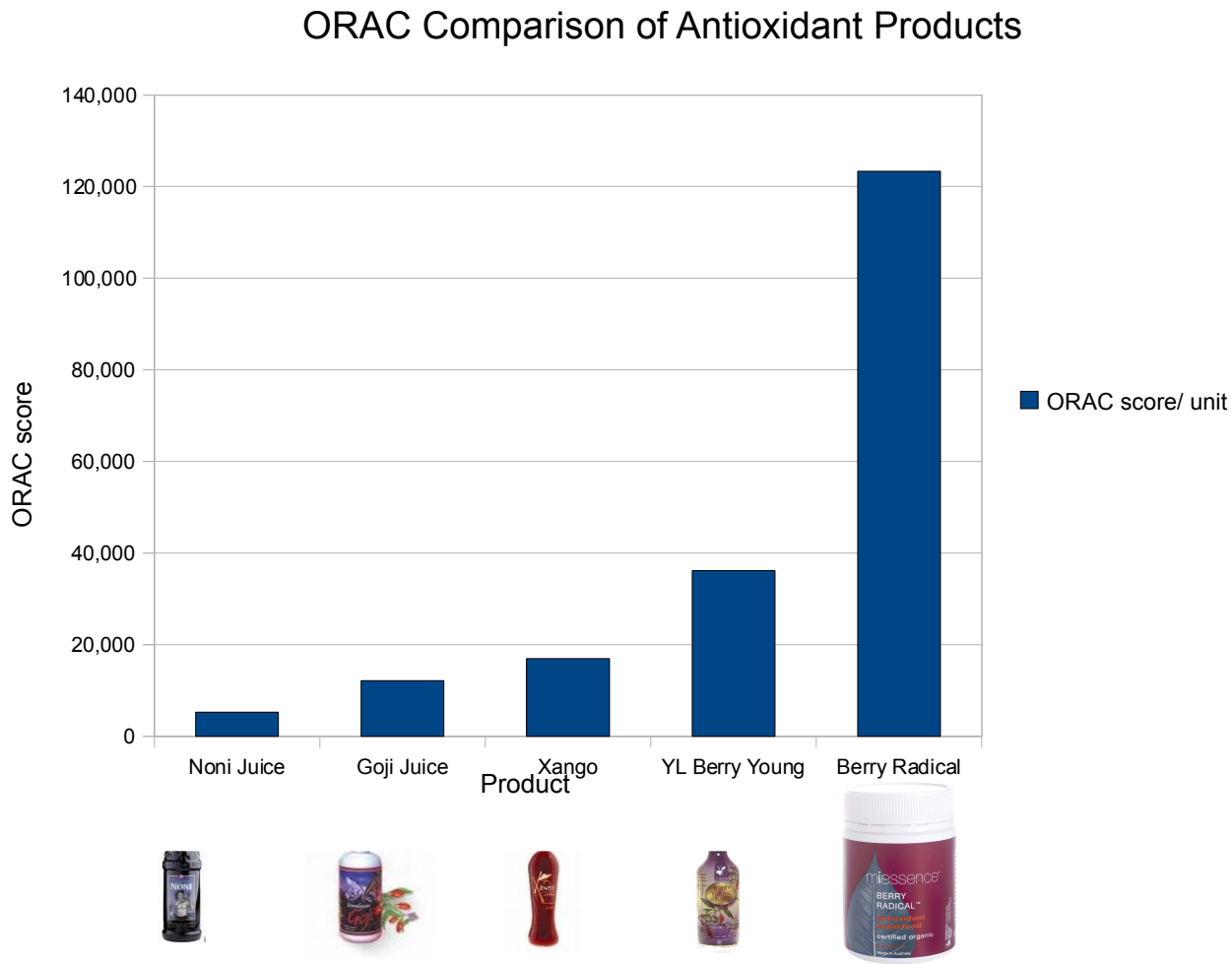
Berry Radical Antioxidant Superfood



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