

It is well-established that carrots are a healthy food. They contain many important nutrients—including alpha- and beta-carotene, B vitamins, vitamin C, plus calcium, iron, potassium, and many antioxidants, including lutein. AIM Just Carrots® provides the nutrition you need to develop a strong foundation for your good health.

Beta-carotene and vitamin A

Beta-carotene is one of about 600 similar compounds called carotenoids, which are present in many fruits and vegetables. Of all the carotenoids, beta-carotene is known for its efficient conversion to vitamin A. Plant sources that are rich in beta-carotene include potatoes, spinach, mango, cantaloupe, kale, and tomatoes, but the highest source of beta-carotene may be found in raw carrots, cooked carrots, and carrot juice.

The body changes beta-carotene found in these foods into vitamin A, which is important in strengthening the immune system and promoting healthy cell growth, including reproductive functioning. Vitamin A helps cells reproduce normally—a process called differentiation (cells that have not properly differentiated are more likely to undergo pre-cancerous changes). For this reason, beta-carotene, as a precursor to vitamin A, has become widely accepted as a natural antioxidant.

Vitamin A plays an important role in vision by helping to maintain the mucosal linings of the eyes, and is required for the transduction of light into nerve signals in the retina. Although vitamin A deficiency blindness is relatively rare in North America, a vitamin A deficiency may result in making the cornea very dry and promoting damage to the retina and cornea. At least 250,000 children worldwide (mostly in developing countries) develop vision-threatening damage to the



cornea due to a deficiency in vitamin A.

Vitamin A also contributes toward good and respiratory, urinary, and intestinal health by protecting mucous membranes. When these linings break down, bacteria can enter the body and cause infection. Some researchers think that vitamin A helps lymphocytes, a type of white blood cell that fights infections. In this way, vitamin A may contribute toward boosting the immune system.

“Results of two national surveys, the third National Health and Nutrition Examination Survey (NHANES III 1988-91) (1, 21) and the Continuing Survey of Food Intakes by Individuals (CSFII 1994) (1, 22), suggested that dietary intakes of some Americans do not meet recommended levels for vitamin A. These surveys highlight the importance of encouraging all Americans to include dietary sources of vitamin A in their daily diets.” (U.S. National Institutes of Health, Office of Dietary Supplements, October 6, 2003).

The following groups of people may find natural sources vitamin A helpful in their diets:

- vegetarians who may limit vitamin A intake from dairy sources, or those who consume too few beta-carotene containing vegetables
- those who consume excessive amounts of alcohol since alcohol intake may deplete vitamin A stores within the body
- toddlers and preschool children, including children with inadequate general health care, as well as those living in environments where nutritional deficiencies are present
- anyone with intestinal fat digestion and absorption difficulties, or those who've experienced chronic diarrhea or intestinal flu



- those who are deficient in iron, since iron may inhibit the metabolism of vitamin A
- anyone with insufficient intake of protein, calories, and zinc in their daily diets, since these nutrients are required for the body to mobilize vitamin A from the liver to the circulatory system.

Antioxidants

Beta-carotene is much more than just a natural source of vitamin A; it is also an important antioxidant. Only so much beta-carotene can be changed into vitamin A, and that which is not changed contributes to boosting the immune system. Antioxidants fight free radicals and help prevent them from causing membrane damage, DNA mutation, and lipid (fat) oxidation, all of which may lead to many of the diseases that we consider “degenerative,” such as cataract or macular degeneration of the eye, heart disease, or cancer.

Alpha-carotene often overlooked

Beta-carotene is not the only antioxidant that is found in carrots. Often overlooked, and also found in carrots, is alpha-carotene. According to an article in NCI Cancer Weekly (Nov. 13, 1989), Michiaki Murakoshi, who leads a team of biochemists at Japan’s Kyoto Prefectural University of Medicine, contends that alpha-carotene may be more powerful than beta-carotene in inhibiting processes that may lead to tumor growth. Murakoshi indicates that neuroblastoma (cancer) cells coated with carotenoids experience a drop in N-myc activity compared to untreated cells. N-myc is a gene that codes for cell growth-stimulating proteins and can contribute to cancer formation and growth. Alpha-carotene was found to be about ten times more inhibitory toward N-myc activity than beta-carotene. Murakoshi concludes that all types of carotenoids should be studied for possible health benefits.

Lutein associated with eye health

Lutein is another antioxidant in the carotenoid family, and is found in carrots. Lutein is the primary carotenoid present in the central area of the retina (called the macula) of the eye. Scientists think that lutein may act as a filler to protect the macula from potentially damaging forms of light (sunlight triggers oxidative damage to the macula). Lutein, therefore, may be helpful in defending against age-related macu-

lar degeneration, which is the leading cause of blindness in older adults.

Researchers have also found a suggested a link between low dietary intake of lutein and the risk of cataract. Results are preliminary and research is ongoing to study the correlation between carotenoids, such as lutein, and the long-term associated protection of vision.

Benefit of juicing

Fresh fruit and vegetable juices are rich in enzymes that spark the hundreds of thousands of chemical reactions that occur throughout the body. These phytochemicals are essential for the digestion and absorption of food, for conversion of foodstuffs into body tissue, and for the production of energy at the cellular level.

In fact, enzymes are essential for most of the building and rebuilding that goes on in our bodies every day. Without enzymes, and the sparks they provide, we would be helpless: a bag of bones, unable to walk, talk, blink, or breathe. When foods are cooked, enzymes can be destroyed; that is why raw foods and juices are so important to us. They provide us with an excellent source of all-important enzymes.

When you eat raw carrots, only 1 percent of the beta-carotene is absorbed by the body. Cooking breaks down the fibrous walls of carrots and increases the body’s absorption to 19 percent. The process of juicing reduces plant fiber as well, allowing vital nutrients to become easily absorbed by the body.

Juicing provides another benefit to good health—water. Water is essential in the digestion and transportation of food, in the elimination of waste, in the lubrication of joints, in the regulation of body temperature, and in cellular processes; all physiological functions rely on water in one way or another. Most health professionals recommend that we drink eight glasses of water per day.

AIM Just Carrots®

AIM Just Carrots® is made from 100 percent natural carrot juice crystals with only the fiber removed. The powder is concentrated 25 times, which means that 25 pounds of raw carrots are used to make one pound of AIM Just Carrots® powder. The caplets are formed from the powder.

AIM Just Carrots® has one of the highest sources of natural beta-carotene. Drinking one serving (12 g) of AIM Just Carrots® powder provides you with 18,720* International Units of beta-carotene. One serving (12 g) of AIM Just Carrots® powder also contains 2,544 International Units of alpha-carotene, and 21.6 mcg of lutein. In addition to total carotene, AIM Just Carrots® contains generous amounts of calcium, iron, and potassium. AIM Just Carrots® is monitored for maximum nutrient levels. (See Table 1 for a comparison of AIM Just Carrots® with freshly squeezed carrot juice.)

Nutrient comparison

Table 1.
AIM Just Carrots® Compared With Freshly Squeezed Carrot Juice

	AIM Just Carrots 12g	USDA fresh carrot juice 4.5 oz	Unit of Measure
Protein	1.13	1.26	g
Fat	0.18	0.2	g
Carbohydrates	9.29	12.33	g
Vitamin A (as total carotene)	21,264	25,387	IU
Potassium	456	388	mg
Calcium	8.76	32	mg
Iron	0.09	0.61	mg
Lutein	21.6	N/A	mcg

*The above figures are an average for a typical serving of 1 tablespoon. (12 g) AIM Just Carrots powder; specific figures vary from batch to batch due to variations in crops due to climate, soil, and times of harvest.

A single serving of AIM Just Carrots® powder contains 43* calories, and 420% of U.S. Recommended Daily Allowance (RDA) of vitamin A in the form of alpha- and beta-carotene; a single serving of AIM Just Carrots® caplets contains 35* calories, and 190% of the U.S. RDA of alpha- and beta-carotene.

The carrots used in AIM Just Carrots® are residue-free, ensuring that you will get no harmful toxins. A special process is used to produce AIM Just Carrots®, which ensures that nutrients and enzymes remain active. This process does not use added sugars, sweeteners, or artificial colors to produce AIM Just Carrots®.

How to use AIM Just Carrots®

- **Powder:** Take 1 tbsp (12 g) once per day. Mix with water, juice, or other members of the AIM Garden Trio®.

Caplets: Take 12 caplets (9 g) once per day. You may take more or less depending on your needs.

- For best results, place AIM Just Carrots® powder dry under the tongue.
- Drink AIM Just Carrots® juice immediately after mixing it.
- AIM Just Carrots® is best taken on an empty stomach: 30 minutes before or 2 hours after a meal.
- Close tightly after opening and store in a cool, dry, dark place (70-75 °F; 20.1-23.8 °C). Do not refrigerate.
- You may mix AIM Just Carrots® with other AIM products, except AIM Herbal Fiberblend®. Take AIM Herbal Fiberblend® 1 hour before or 30 minutes after taking AIM Just Carrots® powder.

Q & A

Can I take too much beta-carotene?

Beta-carotene is nontoxic and does not appear to affect health apart from strengthening the immune system. This is unlike synthetic vitamin A supplements, which can be toxic in large doses. People who take exceptionally large quantities of beta-carotene may experience a change in skin tone known as carotenemia. This condition gives the skin a golden tone and is not harmful.

Are the carrots in AIM Just Carrots® organically grown?

Because of varying regulations and environmental conditions, it is difficult to define “organic.” Wind can blow chemicals from far away and acid rain can affect the soil of a field. Some states stipulate that no chemical products could have been used for two years on a field, and other states say three years, for crops grown on it to qualify as organic. The carrots for AIM Just Carrots® are tested for pesticides and herbicides to ensure that AIM Just Carrots® is residue-free.

What can you tell me about the processing used for AIM Just Carrots®?

AIM Just Carrots® uses a special three-step process. In this process, beneficial heat-sensitive enzymes are not destroyed. This has been validated by testing the

enzyme activity of AIM Just Carrots® when reconstituted in water.

AIM Just Carrots® does not taste exactly like carrot juice. Why?

This is because the process does alter the taste. As stated above, we use this process to ensure that the carrots' nutrients remain intact. We feel that it is better to have a slightly different (but good!) taste and more nutrients than the same taste as carrot juice and fewer nutrients.

Haven't some studies indicated that beta-carotene is bad for you?

The National Institutes of Health states that "provitamin A carotenoids such as beta-carotene are generally considered safe because they are not traditionally associated with adverse health effects." (The Office of Dietary Supplements, October 6, 2003)

Some association of beta-carotene to increased risk of lung cancer has been discussed by the healthcare community. But, according the National Institutes of Health, the results of a 1980's lung cancer study were conflicting and difficult to interpret. Until more is known, some healthcare practitioners recommend limiting beta-carotene and natural sources of vitamin A for smokers. If you are a smoker, you may wish to consult your healthcare practitioner to determine what is best for you.

Suggested Reading

Blauer, Stephen. *The Juicing Book*. Garden City Park, NY: Avery Publishing Group, 1989.

Passwater, Richard A., Ph.D. *Beta-carotene*. New Canaan, CT: Keats Publishing, Inc., 1984.

Passwater, Richard A., Ph.D. *Beta-carotene and Other Carotenoids*. New Canaan, CT: Keats Publishing, Inc., 1996.

Walker, N.W., D.Sc. *Fresh Vegetable and Fruit Juices*. Prescott, AZ: Norwalk Press, 1970.

Benefits & Features

Benefits

- Helps maintain whole body health
- Powerful antioxidant, prevents cell damage
- Special nutrition for the eyes and skin
- Helpful as a dietary supplement for those concerned with age-related, degenerative diseases
- Benefits of live enzymes

Features

- More than 12 years of safe and beneficial use by AIM Members
- Contains 21,264 International Units of total beta-carotene—420% of the daily value recommended by the U.S. Food and Drug Administration, per 12 g serving
- Pure juice product, minimal fiber present
- Tested residue-free
- Nutrients in natural proportions
- No added sugars, artificial coloring, or sweeteners
- Benefits of juicing without the inconvenience
- 14.1-oz (400 g) powder
- 350-count caplets

AIM Just Carrots® is a Whole Body Health product. The complete Whole Body Health line consists of AIM Herbal Fiberblend®, and the AIM Garden Trio® (AIM BarleyLife®, AIM Just Carrots®, and AIM RediBeets®).

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