

# Astaxanthin: The Super Antioxidant That Comes From the Ocean

✓ Fact Checked

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## STORY AT-A-GLANCE

- › Astaxanthin, commonly called “King of the Carotenoids,” is a naturally occurring substance found in a specific type of microalgae, as well as certain seafood
- › One standout feature of astaxanthin is that it is 550 times stronger than vitamin E and 6,000 times more potent than vitamin C
- › Taking astaxanthin regularly may reduce the risk of inflammation in your cardiovascular system. In one study, participants who took 12 milligrams of astaxanthin per day were able to decrease the presence of C-reactive protein in their body, which is an indicator of inflammation

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Antioxidants play an important role in promoting health by protecting your body from free radicals, which are molecules that interfere with the function of your organs, resulting in damage.<sup>1</sup> In this regard, many people do their best to increase their intake of well-known antioxidants such as vitamin C and E, as well as flavonoids from plants. But sometimes, this is simply not enough.<sup>2</sup>

What if there is a certain antioxidant that trumps everything else? The answer you're looking for isn't found in a vegetable or a fruit, but from deep within the ocean: astaxanthin.

Astaxanthin, commonly called "King of the Carotenoids," is a naturally occurring substance found in a specific type of microalgae, as well as certain seafood. In addition, its red color is responsible for turning the flesh of salmon, [crab](#), [lobster](#) and shrimp pink.<sup>3</sup> The research regarding this [antioxidant](#) is promising, as it has shown that astaxanthin possesses a variety of health benefits.

## The Best Astaxanthin Comes From Microalgae

You may have seen some astaxanthin supplements sold in your local health store. Be vigilant in reading the product labels because some of them are made using synthetic ingredients. Of course, you want to avoid these products because they're made using petrochemicals obtained from petroleum and natural gas.

If you want real astaxanthin, it must be straight from the source, which is the *Haematococcus pluvialis* microalgae. This type of algae produces the antioxidant once its water supply dries up, and goes into survival mode to protect itself from sunlight, ultraviolet radiation and low nutrition. Astaxanthin is a result of this process. In addition, there are several foods that contain generous amounts of astaxanthin, mainly seafood that consume the microalgae, such as:<sup>4</sup>

- [Wild-caught Alaskan salmon](#)
- Trout
- Krill (or krill oil)
- Shrimp
- Crayfish

Astaxanthin is also available in various dosages. If you choose to go the supplement route, I strongly recommend getting the ones made from the *Haematococcus pluvialis* microalgae, not the ones made from petrochemicals. This ensures that you're getting the legitimate benefits the antioxidant is known for, as well as safeguarding your health.

# Studies Regarding the Benefits of Astaxanthin

Astaxanthin is quite possibly one of the most valuable antioxidants you can ever take advantage of. Research about this substance is continually growing, and the results are very promising, such as:<sup>5</sup>

**Improved antioxidant profile** — One standout feature of astaxanthin is that it is 550 times stronger than vitamin E and 6,000 times more potent than vitamin C. In addition, it is 10 times more effective than zeaxanthin, lutein, canthaxanthin and beta-carotene.<sup>6</sup>

Research has shown that this antioxidant may benefit your health in important ways. In one example, astaxanthin exhibited digestive-protective properties in rats affected with gastric ulcers.<sup>7</sup>

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**Hearing protection** — Astaxanthin may benefit your hearing by raising your neurotrophin-3 (NT3) levels, a protein that plays a role in the communication between your ears and your brain. A study was able to support this hypothesis when researchers discovered that astaxanthin helped reverse hearing loss in mice.<sup>8</sup>

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**Management of diabetes** — Researchers suggest that astaxanthin may benefit diabetics by reducing oxidative stress in their pancreatic cells caused by high blood sugar levels, as well as improve glucose and serum insulin levels.<sup>9</sup>

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**Reduced risk of cardiovascular disease** — Taking astaxanthin regularly may reduce the risk of inflammation in your cardiovascular system.

In one study, participants who took 12 milligrams of astaxanthin per day were able to decrease the presence of C-reactive protein in their body, which is an indicator of inflammation. In another study, Sprague Dawley rats affected with myocardia had a reduced infarct size once astaxanthin was administered.<sup>10</sup>

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**Anticancer properties** — Astaxanthin has been shown to have potential in fighting

cancer. Experts believe that the antioxidant works by decreasing mutagenesis and carcinogenesis by inhibiting oxidative damage to cells.

Furthermore, it restores cell-to-cell communication to help decrease tumor proliferation. In one example, astaxanthin exhibited growth-inhibitory effects in human colon cancer cells.<sup>11</sup>

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**Immune system boost** – Your immune system is constantly attacked by free radicals, and astaxanthin can help turn the situation around.

Reports strongly suggest that astaxanthin showed higher immunomodulating effects compared to beta-carotene, as well as enhanced antibody production and decreased humoral immune response.<sup>12,13</sup>

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**Better eye health** – A few studies suggest that astaxanthin may help protect your eye from various conditions, such as:

- Cataracts
  - Age-related macular degeneration
  - Glaucoma
  - Inflammatory eye diseases
  - Diabetic retinopathy
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**Neuroprotective effects** – Several studies suggest that astaxanthin may be a powerful tool in maintaining brain health, thanks to its anti-inflammatory and antioxidant properties. In one example, 10 elderly participants who took 12 milligrams of astaxanthin daily for 12 weeks displayed improved cognitive and psychomotor function.<sup>14</sup>

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## Side Effects of Astaxanthin Are Practically Nonexistent

One of the most interesting things about astaxanthin is that it is completely safe to consume, even at doses as high as 500 milligrams per day. The only documented side effect is a slight reddening of the skin, which can only occur if you increase your dosage. In any case, I still recommend that you visit a doctor to help assuage any concerns you might have before taking the supplement.

## **Supplements Are Beneficial, but Natural Sources May Be Better**

Based on published data, it's clear that astaxanthin has strong potential for helping optimize your health in a convenient manner when taken as a supplement. However, it may be more beneficial to consume astaxanthin using a natural approach via the foods where it is commonly found.

For example, wild-caught Alaskan salmon is one of the most nutritious foods you can add to your diet. Aside from astaxanthin, it is rich in omega-3 fatty acids that can provide a wealth of benefits to your overall well-being, such as decreased risk of coronary heart disease and arrhythmia. Almost anyone can benefit from omega-3 fatty acids, as it is an essential nutrient that must be obtained through your diet. Going with a natural approach is essentially hitting two birds with one stone.

## **Frequently Asked Questions About Astaxanthin**

**Q: Should I take astaxanthin?**

**A:** There's plenty of research that supports the potential health benefits of astaxanthin to your health. In other words, chances are high that taking astaxanthin will help optimize your health.

**Q: What is astaxanthin used for?**

**A:** Astaxanthin is generally taken to help improve the antioxidant profile in your system as well as helping lower your risk of cardiovascular disease, among other things.<sup>15</sup>

**Q: What does astaxanthin do for the body?**

**A:** Research has shown that astaxanthin may help manage diabetes, lower your risk of heart disease and cancer, and boost your immune system and antioxidant profile.<sup>16</sup>

**Q: Is astaxanthin safe to take?**

**A:** Yes, but this only applies to natural astaxanthin that comes from microalgae. Synthetic astaxanthin must be avoided.

**Q: How do I take astaxanthin properly?**

**A:** Astaxanthin supplements should be taken alongside foods rich in healthy fats to help improve absorption. This antioxidant may also be obtained naturally through seafood, such as wild-caught Alaskan salmon.

## Sources and References

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