**Alpha Lipoic Acid: Top 10 Benefits & Possible Side Effects**

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Antioxidants are nutrients that counteract the natural deterioration of cells. Raw, organic fruits and vegetables provide a wide array of antioxidants. Antioxidants are also present in herbs like astragalus root and Tibetan Rhodiola. In recent years, antioxidant supplements like [CoQ10](https://www.globalhealingcenter.com/natural-health/coq10/) and alpha lipoic acid (ALA) have gotten significant attention. In the case of ALA, it’s no surprise, as ALA is an important nutrient that offers many positive health benefits. It promotes healthy aging, organ function, cardiovascular health, and brain and nervous system health. ALA also makes your body’s network of antioxidants stronger by boosting cellular production of other antioxidants and antioxidant enzymes. Here, we’ll take an in-depth look at alpha lipoic acid and all that it has to offer.

**Top 10 Benefits of Alpha Lipoic Acid**

1. Encourages normal thyroid hormone levels
2. Supports healthy nerves
3. Promotes normal heart health
4. Protects muscles from exercise-related stress
5. Supports the liver
6. Promotes a strong brain and sharp memory
7. Encourages healthy skin
8. Promotes graceful aging
9. Maintains healthy blood glucose levels
10. Supports a healthy body weight

**What Is Alpha Lipoic Acid?**

Alpha lipoic acid is also called thioctic acid or just lipoic acid and abbreviated ALA — but don’t confuse it with the other ALA, alpha linoleic acid – which is an omega fatty acid. Alpha lipoic acid is produced in small amounts in the mitochondria, which, you may remember from science class, is the “powerhouse” of a cell. ALA is a coenzyme necessary for the Krebs cycle, which is the sequence of chemical reactions by which every living cell produces energy.

ALA occurs in two forms that are mirror images of each other, called R- and S-lipoic acid. Only R-LA is synthesized naturally in the body and naturally occurs in food. It may also exist in a form called [Na R Lipoic acid](https://www.globalhealingcenter.com/natural-health/na-r-lipoic-acid/); the Na refers to the sodium (Na) salt that stabilizes the R-lipoic acid. The sodium keeps each molecule separate and more readily available for the body.

**Where Do You Get Alpha Lipoic Acid?**

There are several ways you can obtain alpha lipoic acid. First and foremost, the cells in your body naturally produce it. Many foods contain alpha lipoic acid, and it’s also available as a nutritional supplement. Additionally, alpha lipoic acid is an ingredient in anti-aging skin care creams and, in some situations, administered by injection.

Your Body

Cells produce a small amount of alpha lipoic acid. However, the amount of ALA your body produces declines as you age or when your [immune system](https://www.globalhealingcenter.com/natural-health/what-is-the-immune-system/) is compromised. Numerous scientific studies have found that supplementation provides substantial therapeutic benefits, suggesting that supplemental ALA can complement a healthy lifestyle.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

Foods That Contain Alpha Lipoic Acid

Alpha lipoic acid is naturally present in many foods. Animal tissue, especially organ meats like the liver, kidneys, and heart, contains the largest amounts of this nutrient. To a lesser degree, alpha lipoic acid is found in vegetables such as broccoli, spinach, tomatoes, [flaxseed oil](https://www.globalhealingcenter.com/natural-health/the-health-benefits-of-flaxseed-oil/), [chia seeds](https://www.globalhealingcenter.com/natural-health/health-benefits-of-chia-seeds/) and [walnuts](https://www.globalhealingcenter.com/natural-health/pecans-vs-walnuts/).[[2](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[3](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Nutritional & Therapeutic Supplements

If your body doesn’t produce enough ALA or you don’t get enough in your diet, which is especially true in Western culture where people consume processed foods and are exposed to [environmental toxins](https://www.globalhealingcenter.com/natural-health/toxin-cleanse-which-toxins-are-disrupting-your-health/), a nutritional supplement that contains ALA can help.. Supplemental servings of ALA typically range from 50 to 600 mg, which is up to 1000 times more than naturally occurs in food.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[2](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[3](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Most supplements contain 50-50 combinations of the mirror image isomers, while the highest quality supplements only contain pure R-LA. Studies show that the body absorbs ALA best on an empty stomach.

**What Are the Top Benefits of Alpha Lipoic Acid?**

“Alpha lipoic acid is a strong antioxidant, and the bulk of its benefits arise from that fact.”

Alpha lipoic acid is a strong antioxidant, and the bulk of its benefits arise from that fact. Being uniquely fat and water-soluble permits this antioxidant fatty acid to work in a broader range of body tissues than other antioxidants, like fat-soluble [vitamin E](https://www.globalhealingcenter.com/natural-health/vitamin-e-health-benefits/) or water-soluble vitamin C.[[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[5](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]. ALA can also bind with toxic metal ions such as mercury, copper, [iron](https://www.globalhealingcenter.com/natural-health/what-is-iron-understanding-essential-nutrient/), and others so they can be expelled from the body.[[6](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

ALA plays a role in energy metabolism in every cell’s mitochondria.[[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Research has shown that ALA’s antioxidant properties support liver health, cardiovascular health, the nervous system, brain, skin, and muscle recovery following intense exercise.[[2](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Additionally, ALA [supports a healthy weight](https://www.globalhealingcenter.com/natural-health/weight-loss-tips-to-keeping-the-weight-off/) and normal blood sugar levels.[[3](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[7](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[8](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

ALA Is a Powerful Antioxidant

Most of ALA’s therapeutic properties arise from its status as an antioxidant. [Antioxidants](https://www.globalhealingcenter.com/natural-health/health-benefits-of-antioxidants/) are molecules that neutralize [free radicals](https://www.globalhealingcenter.com/natural-health/what-are-free-radicals/), which are unstable molecules that produce oxidative stress and damage cells.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]During oxidation, O2 splits into two oxygen atoms, each of which has a single electron. Because electrons prefer to occur in pairs, these “free radicals” — the single electrons — look for and scavenge other electrons so they can pair up, thus damaging cells in the process. Not only does alpha lipoic acid defend against free radicals, but it also helps boost the efficacy of other antioxidants like [vitamin C](https://www.globalhealingcenter.com/natural-health/benefits-of-vitamin-c/) and [vitamin E](https://www.globalhealingcenter.com/natural-health/vitamin-e-health-benefits/).[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[5](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Encourages Normal Thyroid Hormone Levels

At the front of your throat, sitting like a little bowtie above your collarbone, the [thyroid gland](https://www.globalhealingcenter.com/natural-health/thyroid-gland-natural-support/) is a crucial part of the endocrine system. One of its most important functions is to produce the hormones that regulate maturation, growth, and metabolism. When thyroid health is compromised, hormones are thrown out of balance. A 2016 study found that alpha lipoic acid, when taken with quercetin and resveratrol, helped promote normal [thyroid hormone](https://www.globalhealingcenter.com/natural-health/thyroid-hormones-mastering-the-importance-of-the-thyroid/) levels and temper hormone-induced weight gain.[[8](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

Supports Healthy Nerves

The nervous system has two primary components: the central nervous system and the peripheral nervous system. The central nervous system includes your spinal cord and your brain. The peripheral nervous system, which is the larger of the two, consists of the nerve cells outside of your brain and spinal cord.

When the peripheral nerves are unhealthy, they may tingle and cause numbness, especially in the legs and feet. This can impair a person’s balance and affect their ability to grab and hold objects. Over time, this can progress and become severe and debilitating.[[9](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)] Research suggests that alpha lipoic acid’s oxidative stress-relieving qualities may support normal nervous system health, particularly in the peripheral nervous system.[[10](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Promotes Normal Cardiovascular Function

Blood vessels are lined with a single layer of cells called the endothelium. When healthy, endothelial cells promote the relaxation of your blood vessels. The endothelial lining can become compromised due to illnesses, leading to poor vascular health. As we age, oxidative stress negatively affects cardiovascular health. Unchecked, oxidative stress will damage endothelial tissue in arteries and affect blood flow, including to the heart. While the degradation of heart function can lead to serious health issues, antioxidants help promote a healthy heart and cardiovascular system.[[11](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[12](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[13](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

One study revealed that when ALA was introduced to previously damaged blood vessel cells in vitro (in Petri dishes), it promoted normal function of the cells and supported the cell’s antioxidant defenses.[[12](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] In another study, IV-administered alpha lipoic acid helped promote normal circulation.[[13](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Overall, ALA has a cardioprotective effect which may be helpful to people seeking to support their heart.[[14](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Protects Muscles From Exercise-Related Stress

[Exercise](https://www.globalhealingcenter.com/natural-health/9-reasons-exercise-best-medicine/) is one of the best ways to achieve weight loss, healthy blood circulation, and higher energy levels. However, exhaustive, high-intensity exercise routines can accelerate oxidative damage that affects muscle tissue and muscle cells.[[15](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)] Oxidative stress contributes to the soreness you feel after strenuous exercise. Nutrients with antioxidant abilities, such as alpha lipoic acid, may help lessen this effect. Alpha lipoic acid supplements support internal antioxidant defenses and reduce lipid peroxidation, a process that results in cell damage.[[16](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] One study even revealed that the supplemental use of ALA protected liver, heart, and muscle tissue.

Supports Proper Liver Function

When evaluated for its effects on liver health, studies found that ALA supported proper liver function.[[17](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[18](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]Other studies found alpha lipoic acid supplementation promoted a healthier liver after exposure to various toxins.[[6](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Promotes a Strong Brain and Sharp Memory

As you get older, your body produces less alpha lipoic acid, which means you have less protection from free radicals than when you’re young. Some research shows that people living in heavily polluted cities experience cognitive damage due to higher-than-normal levels of environmental toxins.[[19](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

Some studies show that the strong antioxidant properties of alpha lipoic acid help to sharpen the memory, promote mental clarity, and overall alertness.[[20](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

Promotes Healthy Skin

Genetics, [stress](https://www.globalhealingcenter.com/natural-health/how-stress-affects-your-health/), an imbalanced [microbiome](https://www.globalhealingcenter.com/natural-health/what-is-the-microbiome/), and even a diet high in sugar or sodium can cause occasional acne and other skin conditions to appear at any age. While practicing a healthy skin care regimen, following an all-natural diet, and strengthening your [gut flora](https://www.globalhealingcenter.com/natural-health/3-reasons-healthy-gut-flora-are-important/)[[21](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] by taking a probiotic supplement is important, people who experience dry, irritated, itchy, or cracked skin should know that alpha lipoic acid helps promote healthy-looking skin.[[22](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[23](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Promotes Graceful Aging

As you age, oxidative stress takes a toll on cells and causes what we describe as “aging.” Studies have investigated the antioxidant properties of alpha lipoic acid how they might help balance the effects of aging. Some show that alpha lipoic acid reduces oxidative stress on skeletal muscle cells and helps aged heart tissue become more youthful.[[24](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[25](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Other research showed that ALA might be beneficial in keeping excessive iron from accumulating in the cerebral cortex — which is linked to age-related oxidative stress and memory lapses.[[26](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Supports Already Healthy Blood Glucose Levels

High levels of blood glucose, or blood sugar, are a result of the body’s inability to sustain normal insulin levels, the hormone responsible for helping glucose enter your cells. Without insulin, glucose builds up and can result in many serious health issues. A 2017 study examined the effects of alpha lipoic acid on blood glucose levels and found that it helps sustain normal blood glucose levels and insulin sensitivity,[[27](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]indicating that ALA’s properties extend beyond that of being strictly an antioxidant.[[4](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]

Supports a Healthy Body Weight

The consumption of processed food, fast food, and other unhealthy dietary choices is an epidemic that’s causing obesity rates to skyrocket – especially in Western culture. There is no quick fix to losing weight, and the proven lifetime plan for maintaining a healthy weight involves regular exercise and a plant-based, organic diet. However, nutrients like alpha lipoic acid may enhance the effects of a healthy lifestyle. Although more research is needed to confirm its effects on long-term weight loss and overall weight management, one study found that patients who took an ALA supplement experienced a small yet significant reduction in weight compared to patients who took a placebo. An animal study found that combining ALA with a high-fat diet inhibited weight gain.[[7](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/%22%20%5Cl%20%221)]

**Is Alpha Lipoic Acid Safe to Take During Pregnancy?**

“Inquiries into its effects during pregnancy are far from conclusive, but trend toward positive.”

ALA’s natural ability to support healthy mitochondria in cells may help support a normal pregnancy.[[28](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1),[29](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)]Such inquiries into its effects during pregnancy are far from conclusive, but trend toward positive. As always, however, check your healthcare provider before using any medications or supplements before, during, or after pregnancy.

**Safety & Side Effects**

Overall, ALA supplementation at moderate servings does not produce significant adverse effects.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] The most common reported side effects were skin reactions like itching, rashes or hives, with a small number of severe allergic reactions, and a few reported cases of nausea and stomach pain.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Some people have experienced heartburn, but eating a small snack with supplementation has been shown to help. Some people report a sulfur smell in their urine, much like asparagus causes, when taking ALA.

Studies of older patients using supplements with servings ranging from 600 mg to 1,200 mg experienced nausea, acid reflux, and stomach discomfort.[[30](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Persons with diabetes who are using supplemental insulin should monitor their blood glucose levels closely when taking ALA supplements as it influences insulin-mediated blood glucose utilization.[[1](https://www.globalhealingcenter.com/natural-health/alpha-lipoic-acid-benefits-side-effects/#1)] Talk with a healthcare professional before taking supplemental ALA, especially if you are taking other medications or supplements.

**Is Alpha Lipoic Acid Right for Me?**

The benefits of alpha lipoic acid are many. There is compelling evidence that the antioxidative qualities of this nutrient may give your body and brain a healthy boost. If you could benefit from an all-natural supplement that contains a blend of powerful antioxidants, including the natural form of alpha lipoic acid.