

Alpha lipoic acid

## Description

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You may wish to save this to a “Health” email folder for easy reference.

Use this as an aide to your own research and share with your doctor as appropriate.

You can use drugs.com or other trusted health websites to look up the latest information on prescription & herbal drugs possible side & interaction effects. Typing in the name of two medications or a medication & an herb in a search bar of most browsers will bring up results with their interaction effects.

Herbs/supplements (vitamins, minerals & body chemicals like melatonin) that are independently tested- USP (best), GMP (sport), NSF, UL, or Consumerlab.com are likely better, as well as ones manufactured to pharmaceutical grade.

Lipoic acid

As you will read below, alpha lipoic acid (ALA) is the best supplement I've found against migraines (85% reduction so far), sciatica, neuropathy, obesity, pain & inflammation, diabetes, heart disease, dementia, and cancer (replicates the effects of a low carb/ketogenic/intermittent fasting), in part because we already make it in our own bodies it appears to be able to be used by almost everyone

R lipoic acid (RLA) is a lot more expensive than ALA but if expense is no matter stabilized RLA (often Na RLA) might have even less side effects than ALA's mild ones.

Our bodies get lipoic acid from food & also make lipoic acid to turn sugars in our diet into ATP energy. We make less as we get older. When synthesizing RLA to make as a supplement, S lipoic acid is created & bound to the RLA. The combination is called alpha lipoic acid.

R lipoic acid = 2x alpha lipoic acid

Alpha lipoic acid supplements may say they have 300-600 mg of total lipoic acid but half of that is the mildly negative S lipoic acid.

Only 150-300 mg of it is the effective chemical, R lipoic acid. So an easy calculation is R lipoic acid is twice as effective as alpha lipoic acid with mildly lower side effects.

But if you try alpha lipoic acid first & the R lipoic acid isn't effective at half the dose then it may not be R lipoic acid.

[ncbi.nlm.nih.gov/books/NBK564301](https://ncbi.nlm.nih.gov/books/NBK564301)

psychologytoday.com/us/blog/mental-wealth/201405/lipoic-acid-the-little-supplement-could

## Stabilized

It is searchable under alpha lipoic acid stabilized or R lipoic acid stabilized.

The plasma pharmacokinetics of R-(+)-lipoic acid administered as sodium R-(+)-lipoate to healthy human subjects. *Altern Med Rev.* 2007 Dec;12(4):343-51. Carlson DA, Smith AR, Fischer SJ, Young KL, Packer L. GeroNova Research, Inc., 4677 Meade St, Richmond, California 94804, USA.

Cameron M, Taylor C, Lapidus J, Ramsey K, Koop D, Spain R. Gastrointestinal Tolerability and Absorption of R- Versus R,S-Lipoic Acid in Progressive Multiple Sclerosis: A Randomized Crossover Trial. *J Clin Pharmacol.* 2020 Aug;60(8):1099-1106. doi: 10.1002/jcph.1605. Epub 2020 Mar 25. PMID: 32212340. [pubmed.ncbi.nlm.nih.gov/32212340/](https://pubmed.ncbi.nlm.nih.gov/32212340/)

Fiedler SE, Spain RI, Kim E, Salinthon S. Lipoic acid modulates inflammatory responses of monocytes and monocyte-derived macrophages from healthy and relapsing-remitting multiple sclerosis patients. *Immunol Cell Biol.* 2021 Jan;99(1):107-115. doi: 10.1111/imcb.12392. Epub 2020 Sep 11. PMID: 32762092.

<https://www.nationalmssociety.org/Search?q=lipoic&stype=0&chap=0>

## Side effects

There are 4000 studies on Pubmed & NIH and hundreds of thousands around the world on ALA. Humans make alpha lipoic

acid to turn carbohydrates/sugars into ATP energy, but less and less as we get older. Its in leafy greens, potatoes, & organ meats.

Perhaps because it's a natural chemical in our body and our foods, ALA has not been found to have any significant side effects or interaction effects in studies, and according to the review by the Mayo clinic who have done studies confirming it's efficacy against neuropathy (on their website). Vitamin B7 (biotin) alone or in B complex can be taken once a day halfway in between ALA doses if taking over 3000 mg per day. If people have very low blood sugar they often take it after a meal when their blood sugars the highest. It is used topically to treat eczema & is in hundreds of skin creams.

ALA appears to help cognition & walking in MS.

<https://www.mayoclinic.org/diseases-conditions/diabetic-neuropathy/in-depth/diabetic-neuropathy-and-dietary-supplements/art-20095406>

<https://mayoclinic.pure.elsevier.com/en/publications/oral-treatment-with-%CE%B1-lipoic-acid-improves-symptomatic-diabetic-p>

Waslo C, Bourdette D, Gray N, Wright K, Spain R. Lipoic Acid and Other Antioxidants as Therapies for Multiple Sclerosis. *Curr Treat Options Neurol*. 2019 May 6;21(6):26. doi: 10.1007/s11940-019-0566-1. PMID: 31056714.

Fiedler SE, Yadav V, Kerns AR, Tsang C, Markwardt S, Kim E, Spain R, Bourdette D, Salinthon S. Lipoic Acid Stimulates cAMP Production in Healthy Control and Secondary Progressive MS Subjects. *Mol Neurobiol*. 2018 Jul;55(7):6037-6049. doi: 10.1007/s12035-017-0813-y. Epub 2017 Nov 15. PMID: 29143287; PMCID: PMC5953756.

The plasma pharmacokinetics of R-(+)-lipoic acid administered as sodium R-(+)-lipoate to healthy human subjects. *Altern Med Rev*.

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Fiedler SE, Spain RI, Kim E, Salinthon S. Lipoic acid modulates inflammatory responses of monocytes and monocyte-derived macrophages from healthy and relapsing-remitting multiple sclerosis patients. Immunol Cell Biol. 2021 Jan;99(1):107-115. doi: 10.1111/imcb.12392. Epub 2020 Sep 11. PMID: 32762092. <https://www.nationalmssociety.org/Search?q=lipoic&stype=0&chap=0>

ALA appears to reduce inflammation and chronic pain and migraines/headaches within an hour, lumbar disk disease spinal injury nerve entrapment, sciatica in a day, burning mouth syndrome (chemotherapy), neuropathy & nerve pain.

ALA may reduce weight by 8-9% (when taken at 2400mg/day) by six months, sugar cravings, diabetic high blood sugar, triglycerides, insulin resistance, diabetes, cataracts, diabetic neuropathy, polycystic ovarian syndrome and increase insulin efficiency, blood capillary flow, and wound healing.

Utku Karaarslan, Rana ??güder, Özlem Ba?, Miray K??la, Hasan

A??n &

Nurettin Ünal (2013) Alpha lipoic acid intoxication, treatment and outcome, Clinical Toxicology, 51:6, 522-522, DOI: 10.3109/15563650.2013.801983

ALA appears to improve heart output, exercise tolerance, heart surgery outcomes and reduce heart disease, left ventricular dysfunction, heart failure, hypertension, atherosclerosis, arteriosclerosis, reduce vLDL & triglycerides, and second heart attack risk.

ALA appears to help normalize hormone levels & reduce hormone induced weight gain.

ALA appears to reverse damage from brain injury.

ALA appears to help schizophrenia symptoms in multiple studies.

ALA may reduce cirrhosis and fatty liver and may help people wake from hepatic coma from liver damage. It may reduce kidney damage and end stage kidney disease/inflammation/nerve dysfunction.

ALA appears to fight & prevent multiple types of cancer, likely because of cancer's dependence on using excess blood sugar to grow. One review found it more effective than chemotherapy without the side effects.

ALA can be used topically to reduce signs of skin aging and used internally reduce macular degeneration & cataracts.

ALA may help against hearing loss (age, noise) and restore lost sense of smell (like after sinus infection).

ALA may reduce elevation sickness and vitiligo.

ALA appears to chelate heavy metals in copper/lead/mercury/arsenic/antimony/cadmium/iron overload. It is used throughout the world for poisonings and/or overdoses- cyanide, streptomycin, mushroom, radiation, and acetaminophen . ALA helps protect against environmental hormone disruption and organ damage and mitochondrial dysfunction.

ALA may be an immune modulator and help against chronic fatigue syndrome/fibromyalgia. ALA appears to drastically slow neurodegenerative diseases like Alzheimer's, ALS, Parkinson's, and Lewy Body dementia.

ALA appears to help memory, mental clarity, and alertness and to prevent age related cognitive decline.

The PDR for dietary supplements says ALA has no significant side effects with no known drug interactions (has sulfur). Studies have used 300mg-2400mg per day. Taking vitamin B6, vitamin E (mixed), vitamin C, omega 3 fatty acids (spirulina with a meal) concurrently may help ALAs effectiveness.

## ALA and pregnancy

ALA appears to help against four different pregnancy complications

### Premature uterine contractions

In women who had premature uterine contractions, the combination of magnesium & ALA in one study reduced contractions by 300%, and hospitalizations by 200% over the placebo group.

### Cervical shortening & ALA

In another study women were given ALA when they had symptoms of cervical shortening that can lead to premature birth. 37 of 40 mothers showing symptoms had them disappear with ALA, while all of the control group became symptomatic by the end of the study.

### Premature rupture of fetal membranes & ALA

ALA appears to prevent preterm premature rupture of fetal membranes.



In a retrospective study of 610 pregnant women taking ALA, the only health indices differences between the control group and the women taking alpha lipoic acid became better in the ALA group.

Expectant mothers often start at 100mg a day & only increase to the point where symptoms are ameliorated.

How to take?

The studies for weight loss used up to 2400mg/day. The people I know who take it for migraines/neuropathy/sciatica/diabetes/pain&inflammation/heart disease&failure&high blood pressure/cancer start it in the morning upon waking (300-600mg capsule). Then they take it before or after breakfast, lunch, & dinner & big snacks because it helps moderate blood sugar. And they take another at night before bed. [Eur J Endocrinol](#). 2012 Oct;167(4):465-71. doi: 10.1530/EJE-12-0555. Epub 2012 Jul 25.

Oral plus vaginal alpha-lipoic acid in women at risk for preterm delivery G. Vitrano, G. Mocera, M. Guardino, V. Giallombardo, R. Venezia

Parente, E. , Colannino, G. and Ferrara, P. (2014) Efficacy of Magnesium and Alpha Lipoic Acid Supplementation in Reducing Premature Uterine Contractions. *Open Journal of Obstetrics and Gynecology*, 4, 578-583. doi: [10.4236/ojog.2014.49082](#).

Moore R, et al. "[Alpha-Lipoic Acid Inhibits Tumor Necrosis Factor-Induced Remodeling and Weakening of Human Fetal Membranes](#) ." *Biology of Reproduction*, 2009;(80)4, 781–787. Accessed 4 Jan. 2018

Robert M. Moore, Jillian B. Novak, Deepak Kumar, Joseph M. Mansour, Brian M. Mercer, John J. Moore; Alpha-Lipoic Acid Inhibits Tumor Necrosis Factor-Induced Remodeling and Weakening of Human Fetal Membranes, *Biology of Reproduction*, Volume 80, Issue 4, 1 April 2009, Pages 781–787,  
<https://doi.org/10.1095/biolreprod.108.073205>

[Volume 87](#), August 2015, Pages 85-91

Alpha lipoic acid for AF

600mg of alpha lipoic acid at wakeup & with every meal may lower or eliminate atrial fibrillation within four months (if 200lbs or less).

Elfeky, W., & El-Afify, D. R. (2020). Effect of Alpha-Lipoic Acid on Atrial Fibrillation after Open Heart Surgery. *The Egyptian Cardiothoracic Surgeon*, 2(3), 77 – 83.

<https://doi.org/10.35810/ects.v1i1.127>

CHEN, Lei; GAO, WEN; SHAO, YAMENG; LI, CHENGGANG; and LU, YUAN (2022) “Alpha-lipoic acid prevents atrial electrical and structural remodeling via inhibition of NADPH oxidase in a rabbit rapid atrial pacing model,”

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[https://doi.org/10.55730/](https://doi.org/10.55730/1300-0144.5445)

1300-0144.5445 [journals.tubitak.gov.tr/medical/vol52/iss4/60](http://journals.tubitak.gov.tr/medical/vol52/iss4/60)

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Skibska, B.; Goraca, A. The protective effect of lipoic acid on selected cardiovascular diseases caused by age-related oxidative stress. *Oxid, Med. Cell, Longev*, 2015, 2015, 313021, DOI: 10.1155/2015/313021

[Alpha lipoic acid protects the heart against myocardial post ischemia-reperfusion arrhythmias via KATP channel activation in isolated rat hearts](#)

M. Dudek *et al.*

Pharmacol. Rep. (2014)

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Alpha lipoic acid (ALA) & heart damage

ALA appears to stop heart damage & help the heart heal.

[?-Lipoic acid alleviates myocardial injury and induces M2b macrophage polarization after myocardial infarction via HMGB1/NF-kB signaling pathway](#)

2023, International Immunopharmacology X. Wang *et al.*

[Alpha-lipoic acid protects against myocardial ischemia/reperfusion injury via multiple target effects](#) Food Chem. Toxicol (2011)

B. Qi *et al.* [Alpha-lipoic acid impedes myocardial ischemia-reperfusion injury, myocardial apoptosis, and oxidative stress by regulating HMGB1 expression](#) Eur. J. Pharmacol. (2022)

ALA appears to help reverse gestational diabetes symptoms

A systematic review and meta-analysis of  $\alpha$ -lipoic acid in the treatment of gestational diabetes mellitus: A clinical trial study. Aslfulah H, Jamilian M, Ansarihadipour H, Abdollahi M, Khosrowbeygi A. Effect of alpha-lipoic acid supplementation on the lipid profile and lipid ratios in women with gestational diabetes mellitus: A clinical trial study. Int J Reprod Biomed. 2020 Dec 21;18(12):1029-1038. doi: 10.18502/ijrm.v18i12.8024. PMID: 33426413; PMCID: PMC7778749. ent of diabetic peripheral neuropathy.

Effect of alpha-lipoic acid supplementation on lipid profile: A systematic review and meta-analysis of controlled clinical trials.

Nutrition. 2019 Mar;59:121-130. doi: 10.1016/j.nut.2018.08.004. Epub 2018 Aug 23.

[Eur J Pharmacol.](#) 2019 Jan 8;847:1-10. doi: 10.1016/j.ejphar.2019.01.001. [Epub ahead of print]

Does alpha-lipoic acid affect lipid profile? A meta-analysis and systematic review on randomized controlled trials.

**The effects of alpha-lipoic acid supplementation on glucose control and lipid profiles among patients with metabolic diseases: A systematic review and meta-analysis of**

## randomized controlled trials

Akbari, Maryam et al.

Metabolism – Clinical and Experimental , Volume 87 , 56 – 69

Akbari M, Ostadmohammadi V, Tabrizi R, et al. The effects of alpha-lipoic acid supplementation on inflammatory markers among patients with metabolic syndrome and related disorders: a systematic review and meta-analysis of randomized controlled trials. Nutr Metab (Lond). 2018;15:39. Published 2018 Jun 5. doi:10.1186/s12986-018-0274-y

Kucukgoncu S, Zhou E, Lucas KB, Tek C. Alpha-lipoic acid (ALA) as a supplementation for weight loss: results from a meta-analysis of randomized controlled trials. Obes Rev. 2017;18(5):594-601.

Dr. Richard Becker with Cindy Becker “Your Health” 01/27/17 #1557  
The Many Uses of ALA

IJMDAT 2018; 1(1):e104

ALA & traumatic brain injury (TBI), dementia

ALA appears to help people recover from dementia, strokes & TBI

Alpha lipoic acid inhibits neural apoptosis via a mitochondrial pathway in rats following traumatic brain injury

[Volume 108](#), September 2017, Pages 436-447

Alpha-lipoic acid attenuates acute neuroinflammation and long-term cognitive impairment after polymicrobial sepsis

[Amanda Dell](#) et al.

Cognitive decline associated with aging is prevented by taking tocopherol (a type of vitamin E), N-acetylcysteine, &  $\alpha$ -lipoic acid.

Effects of alpha-lipoic acid on spatial learning and memory, oxidative stress, and central cholinergic system in a rat model of vascular dementia

[Ran-ranZhao](#) et al.

Choi K-H, Park M-S, Kim H-S, et al. Alpha-lipoic acid treatment is neurorestorative and promotes functional recovery after stroke in rats. *Molecular Brain*. 2015;8:9. doi:10.1186/s13041-015-0101-6.

Choi K-H, Park M-S, Kim J-T, et al. Lipoic Acid Use and Functional Outcomes after Thrombolysis in Patients with Acute Ischemic Stroke and Diabetes. Wang X, ed. *PLoS ONE*. 2016;11(9):e0163484. doi:10.1371/journal.pone.0163484.

[Free Radic Res](#). 2009 Jul;43(7):658-67. doi:10.1080/10715760902988843.

The protective effect of alpha lipoic acid against traumatic brain injury in rats.

Molz P, Schröder N. Potential Therapeutic Effects of Lipoic Acid on Memory Deficits Related to Aging and Neurodegeneration. *Frontiers in Pharmacology*. 2017;8:849. doi:10.3389/fphar.2017.00849.

Alpha-lipoic acid as a new treatment option for Alzheimer's disease—a 48 months follow-up analysis.

[Adv Drug Deliv Rev.](#) 2008 Oct-Nov;60(13-14):1463-70. doi: 10.1016/j.addr.2008.04.015. Epub 2008 Jul 4.

Lipoic acid as an anti-inflammatory and neuroprotective treatment for Alzheimer's disease.

**Category**

1. Uncategorized

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