

Core SOOTHE: Comprehensive Anti-Inflammatory Supplement

written by Mike Roberto | October 20, 2021



The CORE Nutritionals *Lifeline Series* has been launched, and two supplements in particular have gotten an incredible amount of attention. The first is *Core GUT*, a gut health supplement previously covered here, and the second is today's feature, **Core SOOTHE**, a comprehensive inflammation management supplement with a powerful profile.

Core SOOTHE: From Joint Support to Bone Support to Pain Reduction to Digestion

With SOOTHE, you get four incredibly powerful, well-dosed ingredients paired with two supporting compounds to bring a unique plethora of benefits:



Core SOOTHE is a comprehensive inflammation support supplement

- Overall inflammation and oxidative stress reduction
- Joint support
- Pain alleviation, with *muscle* pain protection

- Bone and cartilage support
- Digestive relaxation

If you couldn't tell from the mention of *bone* support above, that alludes to the comeback of *cissus quadrangularis*, an ingredient that deserves far more attention. It's here in a big way, and backed up by far more, including a massive dose of curcumin.

The whole story is below, but first, take a look at our coupon-powered prices and sign up for PricePLOW's Core Nutritionals news alerts:

Core Nutritionals Soothe – Deals and Price Drop Alerts

Get Price Alerts

Get SOOTHE Price Alerts
 Get Core Nutritionals alerts
 Get Joint Supplements price drops
 Also get hot deal alerts

No spam, no scams.

Disclosure: PricePLOW relies on pricing from stores with which we have a business relationship. We work hard to keep pricing current, but you may find a better offer.

Posts are sponsored in part by the retailers and/or brands listed on this page.

Core SOOTHE Ingredients

In six capsules, you'll get the following massively-dosed ingredients:

- **Cissus Quadrangularis Extract (stem) (5% ketosterones) – 1600 mg**

Supplement Facts		
Serving Size: 6 capsules		
Servings Per Container: 30		
	Amount Per Serving	% DV
Cissus Quadrangularis Extract (stem) (5% ketosterones)	1600 mg	**
Boswellia Extract (<i>Boswellia serrata</i>) (Gum resin) (65% boswellic acids)	1500 mg	**
Curcumin (<i>Curcuma longa</i>) (95% Curcuminoids)	1000 mg	**
Gingeriver® (<i>Zingiber officinale</i>) (root) (Ginger Extract 10%)	180 mg	**
Phyto-C™ (Acerola extract, blueberry, strawberry, maqui berry, açai, tart cherry, kale, broccoli, green tea extract, green coffee bean extract, turmeric extract)	150 mg	**
Bioperine® (Black Pepper Extract) (<i>Piper nigrum</i>) (fruit) (std. to 95% Piperine)	10 mg	**

**Daily Value not established.

Core SOOTHE Ingredients

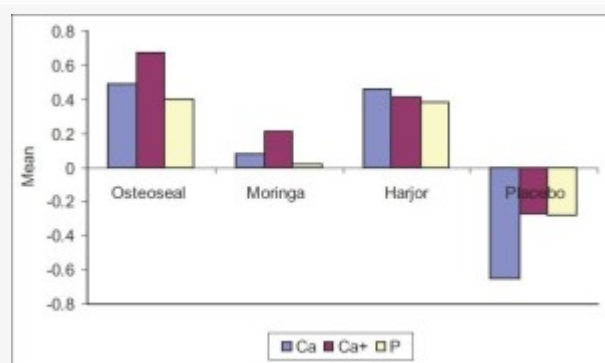
It has been *far* too long since we've written about **cissus quadrangularis**, which was an incredibly popular anti-inflammatory joint and bone health supplement in the 2000s that disappeared for *no* reason whatsoever. This alone makes Core SOOTHE a game-changer, and one you should try if you're looking for some different results.

Cissus quadrangularis grows in many areas of Asia and has long been used in Ayurvedic and traditional medicine.[1,2] Because of its capabilities of healing bone injuries, it's even been called "*Bone Setter*" by some cultures.[3]

Cissus has been shown to increase the number of *blast cells* that get sent to injured areas,[4] allowing for a stronger response and faster recovery of injuries. It has potent anti-inflammatory effects, as shown in vitro.[5,6]

Numerous animal studies have found cissus to have anti-osteoporotic effects,[7-10] and in 2013, researchers published a study demonstrating a reduction in joint pain from a large 3200 milligram dose.[11]

The "bone setter"?



Harjor is cissus, and it had an incredible effect on bone healing. Talk to your doctor, but if you break a bone, cissus is a must-consider supplement alongside calcium, magnesium, and Vitamins D and K

With regards to *bone* healing, research has demonstrated that cissus can increase *osteoblast* proliferation,[12] and has been shown to significantly improve bone healing time in dogs with broken bones.[13,14] Researchers have so far found 29 compounds that have synergistic effects on bone formation.[15]

In addition, there are also some potential weight loss effects from cissus,[16,17] although that's out of the scope of this article.

We're incredibly happy to see cissus make a comeback with a major brand, and think that this alone makes Core SOOTHE worth trying, especially after an injury. And it's only the beginning:

- **Boswellia Extract (Boswellia Serrate) (Gum resin) (65% boswellic acids) – 1500 mg**

Table 1
Painful biochemical parameters in placebo and target therapy groups before and after 4 weeks of therapy

Painful biochemical parameters	Placebo group, n = 24		Target therapy group, n = 20	
	B1	B2	B3	B4
Serum uric acid (mg/dL)	6.28 ± 4.46	6.15 ± 3.32	6.51 ± 2.73	5.31 ± 4.89**
Subtotal cholesterol (mmol/L)	176.36 ± 131.79	209.21 ± 196.13	179.77 ± 121.99	169.66 ± 47.63**
High-density lipoprotein (mmol/L)	41.82 ± 21.12	41.87 ± 30.99	39.84 ± 44.36	36.69 ± 23.19*

A1: Before treatment within placebo group.
 B1: After treatment within placebo group for 4 weeks.
 A2: Before treatment within Target therapy group.
 B2: After treatment within target therapy group for 4 weeks.
 * significance of B2 versus B1 at p < 0.05.
 ** significance B2 versus A2 at p < 0.05.

Table 2
Clinical parameters (arthralgia exacerbation, nocturnal awakening symptoms, need of rescue medication, daytime symptoms, FEV1, PEF and FVC) in placebo and target therapy groups

Clinical parameters	Placebo group, n = 24		Target therapy group, n = 20	
	Group A1	Group B1	Group A2	Group B2
Arthralgia exacerbation/week	3 (3-8)	2 (2-6)	2 (2-3)	0 (0-2)**
Nocturnal awakening symptoms/week	3 (3-4)	4 (2-7)	4 (1-6)	2 (2-2)**
Need of rescue medication/week	5 (3-6)	4 (1-6)	4 (2-6)	2 (2-4)**
Daytime symptoms/week	4 (2-6)	4 (2-6)	5 (2-6)	2 (2-5)**
Forced expiratory volume (FEV1)	76.09 ± 11.08	88.46 ± 13.62	88.63 ± 6.96	72.79 ± 10.43
Forced vital capacity (FVC)	79.31 ± 9.99	88.29 ± 13.61	77.29 ± 18.26	71.14 ± 9.77
Peak expiratory flow rate (PEFR)	326.46 ± 55.88	349.58 ± 61.68	359.77 ± 55.86	329.62 ± 56.61*

A1: Before treatment within placebo group.
 B1: After treatment within placebo group for 4 weeks.
 A2: Before treatment within Target therapy group.
 B2: After treatment within target therapy group for 4 weeks.
 * significance of B2 versus A1 at p < 0.05.
 ** significance B2 versus A2 at p < 0.05.

These are some *insane* results from a combination of boswellia, turmeric, and licorice root (which admittedly is not in this product)[19]

Boswellia Serrata is also known as *Frankincense*, and its gum resins have traditionally been used in folk medicine to treat numerous inflammatory conditions. Research has shown it to be effective at countering osteoarthritis symptoms while combating other forms of inflammation.[18,19]

Boswellia first works by reducing an inflammatory enzyme known as 5-lipoxygenase.[20] It's also able to inhibit the production of *leukotrienes*,[19,21] which are inflammatory molecules released for various reasons, including allergies and during asthma attacks.

Boswellia can also reduce NF-kappa B, a pro-inflammation transcription factor, thanks to its *Acetyl-11-keto-beta-boswellic acid* (AKBA) inside.[22] NF-kappa B is implicated in numerous inflammatory conditions, with arthritis being one of them,[23] so it's good to keep it under control.

Again, we're treated to a large daily dose here, and have a solid standardization as well.

- **Curcumin (Curcuma longa) (95% Curcuminoids) – 1000 mg**

We generally expect to see **curcumin** in a supplement like this, but we *don't* always see it dosed so high – over twice the amount that you get in most of the competition! Hailing from *turmeric* roots, curcumin is actually the yellow pigment that gives those roots their color.[24] Turmeric is part of the *ginger* family, and has an incredible history in ayurvedic medicine,[25] with modern science backing nearly all of it up (and more).



After a brutal workout, Core S00THE has a few ingredients to get you right again

There are numerous *curcuminoids* that have potent anti-inflammatory effects and work synergistically together. Core S00THE has been standardized for 95% curcuminoids,[26,27] so it is not just raw powder – it's active.

Curcumin has been demonstrated to safely help with a *great* deal of maladies in review articles,[28,29] with research showing that it reduces oxidative stress[24,30-35] and inflammation[36-41] through numerous pathways. One of those pathways is the inhibition of the *COX-2 enzyme*,[29,42,43] which gets elevated during inflammatory situations (NSAIDs often target this pathway – curcumin can also do it while being *cardioprotective*,[44] which not all NSAIDs can do).

Through those effects (and more), various forms of curcumin have been shown to **reduce pain**[34,36,45-56] and **improve symptoms of osteoarthritis**,[34,36,45,46,49-53,56,57] two things we're looking for in a "joint supplement".

It can even aid in digestion.[58]

There's so much more to curcumin, and the research is conclusive. The issue, however, is that there is low bioavailability[59,60] unless measures are taken. Thankfully, Core Nutritionals is not only using a dose that's well above average, they've added 10 milligrams of BioPerine (providing piperine from black pepper extract), which has been shown to improve curcumin absorption by as much as 2000%![61]

- **Ginger (Zingiber officinale) (root) (Ginger Extract 10%) – 180 mg**
Ginger is a trademarked ginger extract that was designed to increase the

potency of ginger in its digestive and immunity effects, allowing for lower doses such as this one. With 10% *gingerols*, it's stronger than the average ginger extract you'll see in other supplements.

With ginger in Soothe, we're generally looking at the digestive benefits, but there are also some anti-inflammatory, pain-relieving ones as well.

Combating nausea



We've long known about ginger's anti-nausea, anti-inflammatory benefits, but there it can also reduce post workout *muscle pain*

Ginger's most popular effect is to treat nausea, and it works incredibly well for those purposes.[62-72] It's able to speed up gastric transit of foods,[73] often helping its users get over their issues quicker (especially when sickness slows gastric motility). It can help reduce gas by breaking up the gas molecules and lowering lower esophageal sphincter pressure.[74]

This is great, but many of us are here for pain relief and joint support, which ginger also helps with:

Joint and pain support

Ginger has been shown to possess inflammation-reduction properties,[75-77] and a couple of studies have shown success in combating the symptoms of osteoarthritis.[77,78]

Reduced muscle pain

One of ginger's more interesting effects is how it has been shown to reduce muscular pain in athletes 24 and 48 hours after training.[79] The effect is not immediate, but may help reduce soreness a day or two later.

Another meta analysis performed on seven studies concluded the following regarding ginger and muscle pain:[80]

“Among 7 studies examining ginger as an analgesic, the evidence indicates that roughly 2 g·d(-1) of ginger may modestly reduce muscle pain stemming from eccentric resistance exercise and prolonged running, particularly if taken for a minimum of 5 days.”[80]

This is perfect for Core Nutritionals’ athletes who train with *Fury*.

In addition, just like with cissus, there are potential diet applications as well.[81-84]

With such a well-rounded profile, ginger and ginger-based ingredients are something we’d like to see in more fat burners and supplements like this.

- **Phyto-C – 150 mg**



Phyto-C is a trademarked blend of superfoods that includes *acerola extract, blueberry, strawberry, maqui berry, acai, tart cherry, kale, broccoli, green tea extract, green coffee bean extract, and turmeric extract.*

We recently covered this ingredient in *Arms Race Nutrition’s Immunity Greens*, pointing out that it provides 20% DV and is standardized to 15% polyphenols. Most know that vitamin C can help with immunity through its antioxidant activities that help scavenge free radicals, amongst the other numerous processes it assists with.[85]

We argue that getting vitamins from natural sources is best because it will come along with its cofactors that are seen in nature and are likely beneficial alongside.

- **Bioperine (Black Pepper Extract) (Piper nigrum) (fruit) (std. to 95% Piperine) – 10 mg**

Mentioned above in the curcumin section, **Bioperine** brings 95% *piperine* from black pepper extract. This compound has been shown to improve curcumin bioavailability by 2000%, [61] inexpensively solving curcumin's biggest problem.

Piperine works by inhibiting *P-glycoprotein* and *CYP3A4*, [86] two enzymes that metabolize various drugs and nutrients. With those inhibited, the curcumin (and other ingredients) can remain active longer in the body, exerting their effects.

Dosage

The CORE Soothe label says to take six capsules daily with food. If you do AM/PM supplement dosing, you could split this into two different three-capsule servings to sustain the effects.

Compare against Core Flex

CORE Nutritionals also has *Core FLEX*, which launched around 2017 and has a few similar ingredients, such as cissus and boswellia, but also a few of the "standards" like glucosamine, chondroitin, and MSM. Overall, Core SOOTHE has a greater anti-inflammatory approach (with larger doses of both cissus and boswellia), while Core Flex takes on joints a bit more specifically.



All in all, we prefer Core SOOTHE for its general anti-inflammatory power, especially after injury, but Core FLEX may work better in terms of *preventative* joint support.

Core SOOTHE Brings Back the Cissus and Major Dosing

Long story short, we love this formula. Everything is dosed high, and the ingredients selected are great for the product's purpose: to physically *soothe* you.

Most "joint supplements" target one thing, which is fine for many. But with CORE's aggressive athletes, SOOTHE is closer to what they need:



unsurprising move – but wait until you see the dosages in these supplements!

- **General inflammation reduction**
- **Joint support**
- **Pain reduction**
- **Muscle pain reduction**
- **Bone support**
- **Digestive relaxation**

They did a lot in six capsules, and the six capsules *don't* have to be taken all at once. While the other products in the Core Lifeline Series like Heart, Liver, Gut, and Prostate deal with specific organ systems, Soothe is the one product we could see *everyone* enjoying – especially after rough workouts or even an injury.

So after you get your *Fury* on, make sure you get your *Soothe* on too.

Core Nutritionals Soothe – Deals and Price Drop Alerts

Get Price Alerts

Get SOOTHE Price Alerts Get Core Nutritionals alerts Get Joint Supplements price drops

Also get hot deal alerts

No spam, no scams.

Disclosure: PricePlow relies on pricing from stores with which we have a business relationship. We work hard to keep pricing current, but you may find a better offer.

Posts are sponsored in part by the retailers and/or brands listed on this page.

References

1. Gupta, Ajay K., et al. "Effect of Majja Basti (Therapeutic Enema) and Asthi Shrinkhala (*Cissus Quadrangularis*) in the Management of Osteoporosis (Asthi-Majjakshaya)." *Ayu*, vol. 33, no. 1, 1 Jan. 2012, p. 110, 10.4103/0974-8520.100326; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3456847/>
2. Potu, Bhagath Kumar, et al. "Effect of Majja Basti (Therapeutic Enema) and Asthi Shrinkhala (*Cissus Quadrangularis*) in the Management of Osteoporosis (Asthi-Majjakshaya)." *Ayu*, vol. 33, no. 2, 1 Apr. 2012, p. 317, 10.4103/0974-8520.105263; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3611631/>
3. Aswar, Urmila M., et al. "Estrogenic Activity of Friedelin Rich Fraction (IND-HE) Separated from *Cissus Quadrangularis* and Its Effect on Female Sexual Function." *Pharmacognosy Research*, vol. 2, no. 3, 1 May 2010, p. 138, 10.4103/0974-8490.65507; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3141304/>
4. Udupa, K. N., and G. C. Prasad. "Further Studies on the Effect of *Cissus Quadrangularis* in Accelerating Fracture Healing." *The Indian Journal of Medical Research*, vol. 52, 1 Jan.

- 1964, pp. 26–35; <https://pubmed.ncbi.nlm.nih.gov/14112159/>
5. Lin, J., et al. "Preliminary Screening of Some Traditional Zulu Medicinal Plants for Anti-Inflammatory and Anti-Microbial Activities." *Journal of Ethnopharmacology*, vol. 68, no. 1-3, 15 Dec. 1999, pp. 267–274, 10.1016/s0378-8741(99)00130-0; <https://pubmed.ncbi.nlm.nih.gov/10624887/>
 6. Srisook, Klaokwan, et al. "Anti-Inflammatory Effect of Ethyl Acetate Extract from *Cissus Quadrangularis* Linn May Be Involved with Induction of Heme Oxygenase-1 and Suppression of NF-KB Activation." *Journal of Ethnopharmacology*, vol. 133, no. 3, 16 Feb. 2011, pp. 1008–1014, 10.1016/j.jep.2010.11.029; <https://pubmed.ncbi.nlm.nih.gov/21094244/>
 7. Potu, Bhagath K., et al. "Evidence-Based Assessment of Antiosteoporotic Activity of Petroleum-Ether Extract of *Cissus Quadrangularis* Linn. On Ovariectomy-Induced Osteoporosis." *Upsala Journal of Medical Sciences*, vol. 114, no. 3, 1 Sept. 2009, p. 140, 10.1080/03009730902891784; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC2852762/>
 8. Potu, Bhagath Kumar, et al. "Anti-Osteoporotic Activity of the Petroleum Ether Extract of *Cissus Quadrangularis* Linn. In Ovariectomized Wistar Rats." *Chang Gung Medical Journal*, vol. 33, no. 3, 1 May 2010, pp. 252–257; <https://pubmed.ncbi.nlm.nih.gov/20584502/>
 9. Shirwaikar, Annie, et al. "Antiosteoporotic Effect of Ethanol Extract of *Cissus Quadrangularis* Linn. On Ovariectomized Rat." *Journal of Ethnopharmacology*, vol. 89, no. 2-3, 1 Dec. 2003, pp. 245–250, 10.1016/j.jep.2003.08.004; <https://pubmed.ncbi.nlm.nih.gov/14611887/>
 10. Potu, B. K., et al. "Effect of *Cissus Quadrangularis* Linn on the Development of Osteopenia Induced by Ovariectomy in Rats." *La Clinica Terapeutica*, vol. 162, no. 4, 2011, pp. 307–312; <https://pubmed.ncbi.nlm.nih.gov/21912817/>
 11. Bloomer, Richard J., et al. "*Cissus Quadrangularis* Reduces Joint Pain in Exercise-Trained Men: A Pilot Study." *The Physician and Sportsmedicine*, vol. 41, no. 3, 1 Sept. 2013, pp. 29–35, 10.3810/psm.2013.09.2021; <https://pubmed.ncbi.nlm.nih.gov/24113700/>
 12. Muthusami, Sridhar, et al. "Effects of *Cissus Quadrangularis* on the Proliferation, Differentiation and Matrix Mineralization of Human Osteoblast like SaOS-2 Cells." *Journal of Cellular Biochemistry*, vol. 112, no. 4, 11 Mar. 2011, pp. 1035–1045, 10.1002/jcb.23016; <https://pubmed.ncbi.nlm.nih.gov/21308732/>
 13. Deka, DK et al. "Effect of *Cissus quadrangularis* in accelerating healing process of experimentally fractured radius-ulna of dog, a preliminary study" *Indian journal of pharmacology* 26.1 (1994): 44-45; <https://web.archive.org/web/20160507023226/https://www.wellcorps.com/files/EffectOfCissusQuadrangularisInAcceleratingHealingOfFracture.pdf>
 14. Chopra, S. S., et al. "Studies of *Cissus Quadrangularis* in Experimental Fracture Repair : A Histopathological Study." *The Indian Journal of Medical Research*, vol. 64, no. 9, 1 Sept. 1976, pp. 1365–1368; <https://pubmed.ncbi.nlm.nih.gov/1010630/>
 15. Pathomwichaiwat, Thanika, et al. "Alkaline Phosphatase Activity-Guided Isolation of Active Compounds and New Dammarane-Type Triterpenes from *Cissus Quadrangularis* Hexane Extract." *Journal of Ethnopharmacology*, vol. 160, 3 Feb. 2015, pp. 52–60, 10.1016/j.jep.2014.11.026; <https://pubmed.ncbi.nlm.nih.gov/25449449/>
 16. Oben, Julius E., et al. "The Effect of *Cissus Quadrangularis* (CQR-300) and a *Cissus* Formulation (CORE) on Obesity and Obesity-Induced Oxidative Stress." *Lipids in Health and Disease*, vol. 6, 2007, p. 4, 10.1186/1476-511X-6-4; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC1800848/>
 17. Oben, Julius, et al. "The Use of a *Cissus Quadrangularis* Formulation in the Management of Weight Loss and Metabolic Syndrome." *Lipids in Health and Disease*, vol. 5, 2006, p. 24, 10.1186/1476-511X-5-24; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC1570348/>
 18. Gupta PK et al; "Clinical evaluation of *Boswellia serrata* (Shallaki) resin in the management of Sandhivata (osteoarthritis)."; *Ayu*. 2011 Oct;32(4):478-82; <https://www.ncbi.nlm.nih.gov/pubmed/22661840>
 19. Houssem, ME et al; "Natural anti-inflammatory products and leukotriene inhibitors as a complementary therapy for bronchial asthma."; *Clin Biochem*. 2010 Jul;43(10-11):887-90.; <https://www.ncbi.nlm.nih.gov/pubmed/20430018>
 20. Siddiqui MZ et al; "*Boswellia serrata*, a potential antiinflammatory agent: an overview."; *Indian J Pharm Sci*. 2011 May;73(3):255-61.; <https://www.ncbi.nlm.nih.gov/pubmed/22457547>
 21. Berger, A; "What are leukotrienes and how do they work in asthma?"; *BMJ* 1999;319:90; <https://www.bmj.com/content/319/7202/90.1>
 22. Takada Y, et al; "Acetyl-11-keto-beta-boswellic acid potentiates apoptosis, inhibits invasion, and abolishes osteoclastogenesis by suppressing NF-kappa B and NF-kappa B-regulated gene expression." *J Immunol*. 2006 Mar 1;176(5):3127-40.; <https://www.ncbi.nlm.nih.gov/pubmed/16493072>

23. Kumar A, et al; "Nuclear factor-kappaB: its role in health and disease."; *J Mol Med (Berl)*. 2004 Jul;82(7):434-48.; <https://www.ncbi.nlm.nih.gov/pubmed/15175863>
24. DiSilvestro, Robert A, et al. "Diverse Effects of a Low Dose Supplement of Lipidated Curcumin in Healthy Middle Aged People." *Nutrition Journal*, vol. 11, no. 1, 26 Sept. 2012, 10.1186/1475-2891-11-79; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3518252/>
25. Jayaprakasha, G.K., et al. "Chemistry and Biological Activities of *C. Longa*." *Trends in Food Science & Technology*, vol. 16, no. 12, Dec. 2005, pp. 533–548, 10.1016/j.tifs.2005.08.006; <https://www.sciencedirect.com/science/article/abs/pii/S0924224405002049>
26. Kiuchi, F., et al. "Nematocidal Activity of Turmeric: Synergistic Action of Curcuminoids." *Chemical & Pharmaceutical Bulletin*, vol. 41, no. 9, 1 Sept. 1993, pp. 1640–1643, 10.1248/cpb.41.1640; <https://pubmed.ncbi.nlm.nih.gov/8221978/>
27. Changtam, Chatchawan, et al. "Curcuminoid Analogs with Potent Activity against *Trypanosoma* and *Leishmania* Species." *European Journal of Medicinal Chemistry*, vol. 45, no. 3, 1 Mar. 2010, pp. 941–956, 10.1016/j.ejmech.2009.11.035; <https://pubmed.ncbi.nlm.nih.gov/20004045/>
28. Xu, X. Y., Meng, X., Li, S., Gan, R. Y., Li, Y., & Li, H. B. (2018). Bioactivity, Health Benefits, and Related Molecular Mechanisms of Curcumin: Current Progress, Challenges, and Perspectives. *Nutrients*, 10(10), 1553. doi:10.3390/nu10101553; <https://www.ncbi.nlm.nih.gov/pubmed/30347782>
29. Soleimani, V., Sahebkar, A., & Hosseinzadeh, H. (2018). Turmeric (*Curcuma longa*) and its major constituent (curcumin) as nontoxic and safe substances: Review. *Phytotherapy Research*, 32(6), 985-995; doi:10.1002/ptr.6054; <https://onlinelibrary.wiley.com/doi/10.1002/ptr.6054>
30. Prasad, S., & Aggarwal, B. (2011). Turmeric, the Golden Spice. *Oxidative Stress and Disease Herbal Medicine*, 263-288. doi:10.1201/b10787-14; <https://www.ncbi.nlm.nih.gov/books/NBK92752/>
31. Kalpravidh, Ruchaneekorn W., et al. "Improvement in Oxidative Stress and Antioxidant Parameters in Beta-Thalassemia/Hb E Patients Treated with Curcuminoids." *Clinical Biochemistry*, vol. 43, no. 4-5, 1 Mar. 2010, pp. 424–429, 10.1016/j.clinbiochem.2009.10.057; <https://pubmed.ncbi.nlm.nih.gov/19900435/>
32. Baum, Larry, et al. "Six-Month Randomized, Placebo-Controlled, Double-Blind, Pilot Clinical Trial of Curcumin in Patients with Alzheimer Disease." *Journal of Clinical Psychopharmacology*, vol. 28, no. 1, Feb. 2008, pp. 110–113, 10.1097/jcp.0b013e318160862c; <https://pubmed.ncbi.nlm.nih.gov/18204357/>
33. Biswas, Jaydip, et al. "Curcumin Protects DNA Damage in a Chronically Arsenic-Exposed Population of West Bengal." *Human & Experimental Toxicology*, vol. 29, no. 6, 1 June 2010, pp. 513–524, 10.1177/0960327109359020; <https://pubmed.ncbi.nlm.nih.gov/20056736/>
34. Srivastava, Shobhit, et al. "Curcuma Longa Extract Reduces Inflammatory and Oxidative Stress Biomarkers in Osteoarthritis of Knee: A Four-Month, Double-Blind, Randomized, Placebo-Controlled Trial." *Inflammopharmacology*, vol. 24, no. 6, 19 Oct. 2016, pp. 377–388, 10.1007/s10787-016-0289-9; <https://pubmed.ncbi.nlm.nih.gov/27761693/>
35. T Krishnareddy, Naveen, et al. "A Novel Curcumin-Galactomannoside Complex Delivery System Improves Hepatic Function Markers in Chronic Alcoholics: A Double-Blinded, Randomized, Placebo-Controlled Study." *BioMed Research International*, vol. 2018, 2018, p. 9159281, 10.1155/2018/9159281; <https://pubmed.ncbi.nlm.nih.gov/30345312/>
36. Belcaro, Gianni, et al. "Efficacy and Safety of Meriva, a Curcumin-Phosphatidylcholine Complex, during Extended Administration in Osteoarthritis Patients." *Alternative Medicine Review: A Journal of Clinical Therapeutic*, vol. 15, no. 4, 1 Dec. 2010, pp. 337–344; <https://pubmed.ncbi.nlm.nih.gov/21194249/>
37. Chainani-Wu, Nita, et al. "High-Dose Curcuminoids Are Efficacious in the Reduction in Symptoms and Signs of Oral Lichen Planus." *Journal of the American Academy of Dermatology*, vol. 66, no. 5, May 2012, pp. 752–760, 10.1016/j.jaad.2011.04.022; <https://pubmed.ncbi.nlm.nih.gov/21907450/>
38. Khajehdehi, Parviz, et al. "Oral Supplementation of Turmeric Attenuates Proteinuria, Transforming Growth Factor- β and Interleukin-8 Levels in Patients with Overt Type 2 Diabetic Nephropathy: A Randomized, Double-Blind and Placebo-Controlled Study." *Scandinavian Journal of Urology and Nephrology*, vol. 45, no. 5, 31 May 2011, pp. 365–370, 10.3109/00365599.2011.585622; <https://pubmed.ncbi.nlm.nih.gov/21627399/>
39. Khajehdehi, Parviz, et al. "Oral Supplementation of Turmeric Decreases Proteinuria, Hematuria, and Systolic Blood Pressure in Patients Suffering from Relapsing or Refractory Lupus Nephritis: A Randomized and Placebo-Controlled Study." *Journal of Renal Nutrition*, vol. 22, no. 1, Jan. 2012, pp. 50–57, 10.1053/j.jrn.2011.03.002; <https://pubmed.ncbi.nlm.nih.gov/21742514/>
40. Hanai, Hiroyuki, et al. "Curcumin Maintenance Therapy for Ulcerative Colitis: Randomized,

- Multicenter, Double-Blind, Placebo-Controlled Trial." *Clinical Gastroenterology and Hepatology*, vol. 4, no. 12, Dec. 2006, pp. 1502–1506, 10.1016/j.cgh.2006.08.008; <https://pubmed.ncbi.nlm.nih.gov/17101300/>
41. Amalraj, Augustine, et al. "A Novel Highly Bioavailable Curcumin Formulation Improves Symptoms and Diagnostic Indicators in Rheumatoid Arthritis Patients: A Randomized, Double-Blind, Placebo-Controlled, Two-Dose, Three-Arm, and Parallel-Group Study." *Journal of Medicinal Food*, vol. 20, no. 10, 2017, pp. 1022–1030, 10.1089/jmf.2017.3930; <https://pubmed.ncbi.nlm.nih.gov/28850308/>
 42. Camacho-Barquero, Laura, et al. "Curcumin, a Curcuma Longa Constituent, Acts on MAPK P38 Pathway Modulating COX-2 and INOS Expression in Chronic Experimental Colitis." *International Immunopharmacology*, vol. 7, no. 3, Mar. 2007, pp. 333–342, 10.1016/j.intimp.2006.11.006; <https://pubmed.ncbi.nlm.nih.gov/17276891/>
 43. Aggarwal, Sita, et al. "Curcumin (Diferuloylmethane) Down-Regulates Expression of Cell Proliferation and Antiapoptotic and Metastatic Gene Products through Suppression of IkappaBalpha Kinase and Akt Activation." *Molecular Pharmacology*, vol. 69, no. 1, 2006, pp. 195–206, 10.1124/mol.105.017400; <https://pubmed.ncbi.nlm.nih.gov/16219905/>
 44. Miriyala, S., Panchatcharam, M., & Rengarajulu, P. (n.d.). "Cardioprotective Effects of Curcumin". *The Molecular Targets and Therapeutic Uses of Curcumin in Health and Disease*, 359–377. doi:10.1007/978-0-387-46401-5_16; https://link.springer.com/chapter/10.1007/978-0-387-46401-5_16
 45. Panahi, Yunes, et al. "Curcuminoid Treatment for Knee Osteoarthritis: A Randomized Double-Blind Placebo-Controlled Trial." *Phytotherapy Research*, vol. 28, no. 11, 22 May 2014, pp. 1625–1631, 10.1002/ptr.5174; <https://pubmed.ncbi.nlm.nih.gov/24853120/>
 46. Belcaro, G., et al. "Product-Evaluation Registry of Meriva, a Curcumin-Phosphatidylcholine Complex, for the Complementary Management of Osteoarthritis." *Panminerva Medica*, vol. 52, no. 2 Suppl 1, 1 June 2010, pp. 55–62; <https://pubmed.ncbi.nlm.nih.gov/20657536/>
 47. Togni, et al. "Comparative Evaluation of the Pain-Relieving Properties of a Lecithinized Formulation of Curcumin (Meriva), Nimesulide, and Acetaminophen." *Journal of Pain Research*, Mar. 2013, p. 201, 10.2147/jpr.s42184; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3596124/>
 48. Agarwal, Krishna Adit, et al. "Efficacy of Turmeric (Curcumin) in Pain and Postoperative Fatigue after Laparoscopic Cholecystectomy: A Double-Blind, Randomized Placebo-Controlled Study." *Surgical Endoscopy*, vol. 25, no. 12, 14 June 2011, pp. 3805–3810, 10.1007/s00464-011-1793-z; <https://pubmed.ncbi.nlm.nih.gov/21671126/>
 49. Madhu, K., et al. "Safety and Efficacy of Curcuma Longa Extract in the Treatment of Painful Knee Osteoarthritis: A Randomized Placebo-Controlled Trial." *Inflammopharmacology*, vol. 21, no. 2, 16 Dec. 2012, pp. 129–136, 10.1007/s10787-012-0163-3; <https://pubmed.ncbi.nlm.nih.gov/23242572/>
 50. Nakagawa, Yasuaki, et al. "Short-Term Effects of Highly-Bioavailable Curcumin for Treating Knee Osteoarthritis: A Randomized, Double-Blind, Placebo-Controlled Prospective Study." *Journal of Orthopaedic Science*, vol. 19, no. 6, Nov. 2014, pp. 933–939, 10.1007/s00776-014-0633-0; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC4244558/>
 51. Haroyan, Armine, et al. "Efficacy and Safety of Curcumin and Its Combination with Boswellic Acid in Osteoarthritis: A Comparative, Randomized, Double-Blind, Placebo-Controlled Study." *BMC Complementary and Alternative Medicine*, vol. 18, no. 1, 9 Jan. 2018, 10.1186/s12906-017-2062-z; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC5761198/>
 52. Kuptniratsaikul, Vilai, et al. "Efficacy and Safety of Curcuma Domestica Extracts Compared with Ibuprofen in Patients with Knee Osteoarthritis: A Multicenter Study." *Clinical Interventions in Aging*, vol. 9, Mar. 2014, p. 451, 10.2147/cia.s58535; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3964021/>
 53. Panda, Sanjib kumar, et al. "A Randomized, Double Blind, Placebo Controlled, Parallel-Group Study to Evaluate the Safety and Efficacy of Curene versus Placebo in Reducing Symptoms of Knee OA." *BioMed Research International*, vol. 2018, 25 Oct. 2018, pp. 1–8, 10.1155/2018/5291945; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC6222223/>
 54. Chandran, Binu, and Ajay Goel. "A Randomized, Pilot Study to Assess the Efficacy and Safety of Curcumin in Patients with Active Rheumatoid Arthritis." *Phytotherapy Research*, vol. 26, no. 11, 9 Mar. 2012, pp. 1719–1725, 10.1002/ptr.4639; <https://pubmed.ncbi.nlm.nih.gov/22407780/>
 55. Amalraj, Augustine, et al. "A Novel Highly Bioavailable Curcumin Formulation Improves Symptoms and Diagnostic Indicators in Rheumatoid Arthritis Patients: A Randomized, Double-Blind, Placebo-Controlled, Two-Dose, Three-Arm, and Parallel-Group Study." *Journal of Medicinal Food*, vol. 20, no. 10, 2017, pp. 1022–1030, 10.1089/jmf.2017.3930; <https://pubmed.ncbi.nlm.nih.gov/28850308/>
 56. Shep, Dhaneshwar, et al. "Safety and Efficacy of Curcumin versus Diclofenac in Knee

- Osteoarthritis: A Randomized Open-Label Parallel-Arm Study." *Trials*, vol. 20, no. 1, 11 Apr. 2019, 10.1186/s13063-019-3327-2; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC6460672/>
57. Kuptniratsaikul, Vilai, et al. "Efficacy and Safety of Curcuma Domestica Extracts in Patients with Knee Osteoarthritis." *Journal of Alternative and Complementary Medicine (New York, N.Y.)*, vol. 15, no. 8, 2009, pp. 891–7, 10.1089/acm.2008.0186; <https://pubmed.ncbi.nlm.nih.gov/19678780/>
58. Dulbecco, P., & Savarino, V. (2013). Therapeutic potential of curcumin in digestive diseases. *World journal of gastroenterology*, 19(48), 9256-70; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3882399/>
59. Sharma, R. A., et al. "Pharmacodynamic and Pharmacokinetic Study of Oral Curcuma Extract in Patients with Colorectal Cancer." *Clinical Cancer Research: An Official Journal of the American Association for Cancer Research*, vol. 7, no. 7, 1 July 2001, pp. 1894–1900; <https://pubmed.ncbi.nlm.nih.gov/11448902/>
60. Lao, Christopher D, et al. "Dose Escalation of a Curcuminoid Formulation." *BMC Complementary and Alternative Medicine*, vol. 6, no. 1, 17 Mar. 2006, 10.1186/1472-6882-6-10; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC1434783/>
61. Shoba, G., Joy, D., Joseph, T., Majeed, M., Rajendran, R., & Srinivas, P. (1998). Influence of Piperine on the Pharmacokinetics of Curcumin in Animals and Human Volunteers. *Planta Medica*, 64(04), 353–356. doi:10.1055/s-2006-957450 <https://www.ncbi.nlm.nih.gov/pubmed/9619120>
62. Borrelli, Francesca, et al. "Effectiveness and Safety of Ginger in the Treatment of Pregnancy-Induced Nausea and Vomiting." *Obstetrics & Gynecology*, vol. 105, no. 4, Apr. 2005, pp. 849–856, 10.1097/01.aog.0000154890.47642.23; <https://pubmed.ncbi.nlm.nih.gov/15802416/>
63. Fischer-Rasmussen, Wiggo, et al. "Ginger Treatment of Hyperemesis Gravidarum." *European Journal of Obstetrics & Gynecology and Reproductive Biology*, vol. 38, no. 1, Jan. 1991, pp. 19–24, 10.1016/0028-2243(91)90202-v; <https://pubmed.ncbi.nlm.nih.gov/1988321/>
64. Smith, Caroline, et al. "A Randomized Controlled Trial of Ginger to Treat Nausea and Vomiting in Pregnancy." *Obstetrics & Gynecology*, vol. 103, no. 4, Apr. 2004, pp. 639–645, 10.1097/01.aog.0000118307.19798.ec; <https://pubmed.ncbi.nlm.nih.gov/15051552/>
65. Willetts, Karen E., et al. "Effect of a Ginger Extract on Pregnancy-Induced Nausea: A Randomised Controlled Trial." *The Australian and New Zealand Journal of Obstetrics and Gynaecology*, vol. 43, no. 2, Apr. 2003, pp. 139–144, 10.1046/j.0004-8666.2003.00039.x; <https://pubmed.ncbi.nlm.nih.gov/14712970/>
66. Keating, Angela, and Ronald A. Chez. "Ginger Syrup as an Antiemetic in Early Pregnancy." *Alternative Therapies in Health and Medicine*, vol. 8, no. 5, 1 Sept. 2002, pp. 89–91; <https://pubmed.ncbi.nlm.nih.gov/12233808/>
67. Ernst, E, and M H Pittler. "Efficacy of Ginger for Nausea and Vomiting: A Systematic Review of Randomized Clinical Trials." *British Journal of Anaesthesia*, vol. 84, no. 3, Mar. 2000, pp. 367–371, 10.1093/oxfordjournals.bja.a013442; <https://pubmed.ncbi.nlm.nih.gov/10793599/>
68. Pillai, Anu Kochanujan, et al. "Anti-Emetic Effect of Ginger Powder versus Placebo as an Add-on Therapy in Children and Young Adults Receiving High Emetogenic Chemotherapy." *Pediatric Blood & Cancer*, vol. 56, no. 2, 14 Sept. 2010, pp. 234–238, 10.1002/pbc.22778; <https://pubmed.ncbi.nlm.nih.gov/20842754/>
69. Apariman, Sirirat, et al. "Effectiveness of Ginger for Prevention of Nausea and Vomiting after Gynecological Laparoscopy." *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet*, vol. 89, no. 12, 1 Dec. 2006, pp. 2003–2009; <https://pubmed.ncbi.nlm.nih.gov/17214049/>
70. Nanthakomon, Tongta, and Densak Pongrojpaew. "The Efficacy of Ginger in Prevention of Postoperative Nausea and Vomiting after Major Gynecologic Surgery." *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet*, vol. 89 Suppl 4, 1 Oct. 2006, pp. S130-136; <https://pubmed.ncbi.nlm.nih.gov/17725149/>
71. Vutyavanich, T. "Ginger for Nausea and Vomiting in Pregnancy: Randomized, Double-Masked, Placebo-Controlled Trial." *Obstetrics & Gynecology*, vol. 97, no. 4, Apr. 2001, pp. 577–582, 10.1016/s0029-7844(00)01228-x; <https://pubmed.ncbi.nlm.nih.gov/11275030/>
72. Chaiyakunapruk, Nathorn, et al. "The Efficacy of Ginger for the Prevention of Postoperative Nausea and Vomiting: A Meta-Analysis." *American Journal of Obstetrics and Gynecology*, vol. 194, no. 1, Jan. 2006, pp. 95–99, 10.1016/j.ajog.2005.06.046; <https://pubmed.ncbi.nlm.nih.gov/16389016/>
73. Wu, Keng-Liang, et al. "Effects of Ginger on Gastric Emptying and Motility in Healthy Humans." *European Journal of Gastroenterology & Hepatology*, vol. 20, no. 5, May 2008, pp. 436–440, 10.1097/meg.0b013e3282f4b224; <https://pubmed.ncbi.nlm.nih.gov/18403946/>

74. Lohsiriwat, Supatra, et al. "Effect of Ginger on Lower Esophageal Sphincter Pressure." *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet*, vol. 93, no. 3, 1 Mar. 2010, pp. 366–372; <https://pubmed.ncbi.nlm.nih.gov/20420113/>
75. Zick, Suzanna M., et al. "Phase II Study of the Effects of Ginger Root Extract on Eicosanoids in Colon Mucosa in People at Normal Risk for Colorectal Cancer." *Cancer Prevention Research (Philadelphia, Pa.)*, vol. 4, no. 11, 1 Nov. 2011, pp. 1929–1937, 10.1158/1940-6207.CAPR-11-0224; <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3208778/>
76. Cd, Black, et al. "Ginger (*Zingiber Officinale*) Reduces Muscle Pain Caused by Eccentric Exercise." *The Journal of Pain : Official Journal of the American Pain Society*, 1 Sept. 2010; <https://pubmed.ncbi.nlm.nih.gov/20418184/>
77. Zahmatkash, Mohsen, and Mohammad Reza Vafaeenasa. "Comparing Analgesic Effects of a Topical Herbal Mixed Medicine with Salicylate in Patients with Knee Osteoarthritis." *Pakistan Journal of Biological Sciences*, vol. 14, no. 13, 1 Dec. 2011, pp. 715–719, 10.3923/pjbs.2011.715.719; <https://pubmed.ncbi.nlm.nih.gov/22308653/>
78. Bliddal, H, et al. "A Randomized, Placebo-Controlled, Cross-over Study of Ginger Extracts and Ibuprofen in Osteoarthritis." *Osteoarthritis and Cartilage*, vol. 8, no. 1, Jan. 2000, pp. 9–12, 10.1053/joca.1999.0264; <https://pubmed.ncbi.nlm.nih.gov/10607493/>
79. Black, Christopher D., and Patrick J. O'Connor. "Acute Effects of Dietary Ginger on Muscle Pain Induced by Eccentric Exercise." *Phytotherapy Research*, vol. 24, no. 11, 28 Oct. 2010, pp. 1620–1626, 10.1002/ptr.3148; <https://pubmed.ncbi.nlm.nih.gov/21031618/>
80. Wilson, Patrick B. "Ginger (*Zingiber Officinale*) as an Analgesic and Ergogenic Aid in Sport." *Journal of Strength and Conditioning Research*, vol. 29, no. 10, Oct. 2015, pp. 2980–2995, 10.1519/jsc.0000000000001098; <https://pubmed.ncbi.nlm.nih.gov/26200194/>
81. Oso, A. O., Awe, A. W., Awosoga, F. G., Bello, F. A., Akinfenwa, T. A., & Ogunremi, E. B. (2013). Effect of ginger (*Zingiber officinale* Roscoe) on growth performance, nutrient digestibility, serum metabolites, gut morphology, and microflora of growing guinea fowl. *Tropical Animal Health and Production*, 45(8), 1763–1769; <https://pubag.nal.usda.gov/catalog/614420>
82. Maharlouei, N., Tabrizi, R., Lankarani, K. B., Rezaianzadeh, A., Akbari, M., Kolahdooz, F., ... Asemi, Z. (2018). The effects of ginger intake on weight loss and metabolic profiles among overweight and obese subjects: A systematic review and meta-analysis of randomized controlled trials. *Critical Reviews in Food Science and Nutrition*, 1–14. doi:10.1080/10408398.2018.1427044; <https://www.ncbi.nlm.nih.gov/pubmed/29393665>
83. Valussi, M. (2011). Functional foods with digestion-enhancing properties. *International Journal of Food Sciences and Nutrition*, 63(sup1), 82–89. doi:10.3109/09637486.2011.627841; <https://www.ncbi.nlm.nih.gov/pubmed/22010973>
84. Gu, B. (2011). Supplementation of enteric-coated ginger and garlic essence tablet improved blood lipid profile in rats fed high-fat diet and hyperlipidemic subjects. *European Journal of Pharmacology*, 668. doi:10.1016/j.ejphar.2011.09.286; <https://www.ncbi.nlm.nih.gov/pubmed/15796206>
85. Carr, A., Maggini, S., *Nutrients*; "Vitamin C and Immune Function." 2017; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5707683/>
86. Bhardwaj, Rajinder K, et al; "Piperine, a Major Constituent of Black Pepper, Inhibits Human P-Glycoprotein and CYP3A4."; *The Journal of Pharmacology and Experimental Therapeutics*; U.S. National Library of Medicine; Aug. 2002; <https://www.ncbi.nlm.nih.gov/pubmed/12130727>