Kaged Muscle Sleep SR: Sustained Release Sleep

written by Mike Roberto | September 14, 2021

For years, the team at Kaged Muscle has been *waking* you up with powerful, energy-driven supplements like *Pre-Kaged*, *Clean Burn Amped*, and the new *Hydra-Charge Amped*. But now it's time to bring you back down to earth, helping you rest, relax, and get a full night's sleep – all so you can do it again tomorrow!

Say goodnight to sleeplessness with Sleep SR

Sleep SR is a one capsule *sustained-release* sleep aid that will have you feeling good with more serotonin, and keep you asleep with long-lasting melatonin!

Kaged has recently released **Sleep SR**, a *sustained release sleep aid* that comes in just *one* capsule to help you fall asleep faster and keep you asleep longer, letting you wake up feeling more refreshed.

It's made with a sustained release melatonin ingredient that keeps working throughout the night, but is also fronted with a trio of ingredients to boost *serotonin* production as well, doubling as a stress reducer. In addition, you can sleep like a *baby* using milk-derived *Lactium*, which can boost GABA expression and settle you down even further.

If sleep has become your enemy, and your standard melatonin supplements haven't kept you asleep throughout the entire night, keep reading – *Sleep-SR* may be exactly what you're looking for – and it's available in just a single capsule.

The research is covered below, but first, take a moment to check out PricePlow's prices and sign up for our Kaged news alerts:

Kaged Muscle Sleep SR – Deals and Price Drop Alerts

Get Price Alerts

Get Sleep SR Price AlertsGet Kaged alertsGet Sleep Aids price drops

☐ Also get hot deal alerts

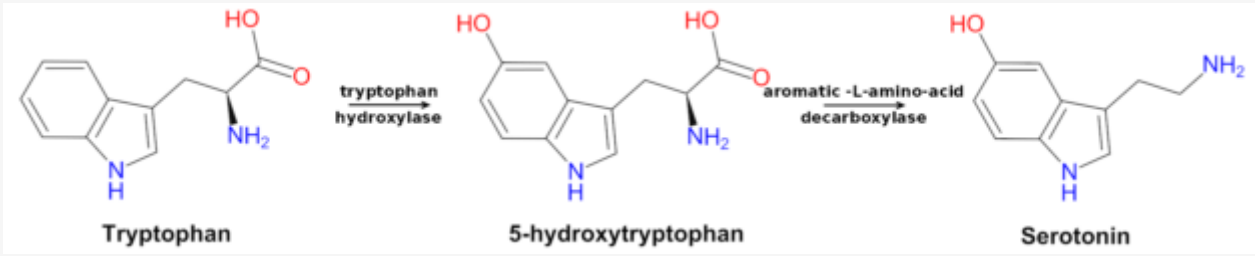
No spam, no scams.

Sleep SR Ingredients

In just one capsule, you get calming, relaxing, and sleep-inducing effects from the following ingredients:

- **L-Tryptophan – 275 mg**

  L-Tryptophan is the first part of Sleep-SR's three *serotonin*-stimulating ingredients, and the most important building block for the critical neurotransmitter, as you can see in the reactions below:[1,2]



The Tryptophan to Serotonin pathway by way of 5-HTP. Don't have enough tryptophan around because of weak diet? Get more here.. and below we discuss how Vitamin B-6 can add additional help. Image courtesy Wikimedia Commons

Tryptophan is an essential amino acid found abundantly in meat, and without enough of it, we cannot generate enough 5-HTP (5-Hydroxytryptophan shown above), which then gets converted to serotonin.[1,2]

Generating serotonin: The happy hormone

Just one capsule is all it takes to start feeling less stress and ready to sleep!

Serotonin is the well-known neurotransmitter that has an enormous impact on the body, regulating mood, cardiovascular health, digestion, and even sexual health.[3,4] We like to refer to it as the *"feel-good" neurotransmitter*. It's often targeted while treating various medical and mental disorders, and deficiency (or trouble creating it) leads to numerous problems.

We firmly believe that low tryptophan consumption (as well as low intake of high-bioavailability Vitamin B6 and Folate, discussed below) are a major reason for the common negative mental consequences of dieters who don't eat enough foods high in tryptophan.[5-10]

Since that serotonin can eventually get converted to *melatonin*, we often describe tryptophan supplementation as a kind of "time-released melatonin" – but that's something Sleep-SR has as well!

Tryptophan and sleep

Tryptophan was the subject of a great deal of sleep research in the 1960s and 70s, capped off with a 1982 meta-analysis analyzing *40* studies throughout those decades.[11] The researchers came to the conclusion that the best effects are found on normal subjects with mild insomnia or take slightly longer than average to fall asleep.

Over time, research moved on to other ingredients (such as melatonin), but it's important to note that tryptophan is a very important *building block* for timely rest and relaxation – but not the only thing required.

- **Lactium (Casein Hydrolysate) – 150 mg**

  Kaged's own branding says *"Sleep Like a Baby with Lactium"*, alluding to the

warm glass of milk before bed that many like to give their kids.

Lactium is a casein bipeptide (mainly *alpha-casozepine*) that mimics our brain's relaxation neurotransmitters and may reduce symptoms of stress by reducing cortisol. The ingredient was actually inspired by the state of calm that babies undergo after drinking mother's milk.

Go down gently, wake up *refreshed*.

More specifically, the compound has a selective affinity $GABA_A$ receptors, which means it can increase the activity and release of gamma-aminobutyric acid (GABA), our "downer neurotransmitter" that has relaxing properties and can reduce anxiety.[12,13] However, it works through a natural and non-addictive mechanism.

Stress reduction

The ingredient has been around since 2002, with a few internal research studies under its belt – most of it geared towards *stress reduction*. In one such study conducted on 52 healthy young adult men and women (ages 18-40) for 30 days, 150 milligrams per day of Lactium demonstrated a reduction of blood pressure compared to placebo when put under a stress-inducing Stroop test.[14]

Improved sleep

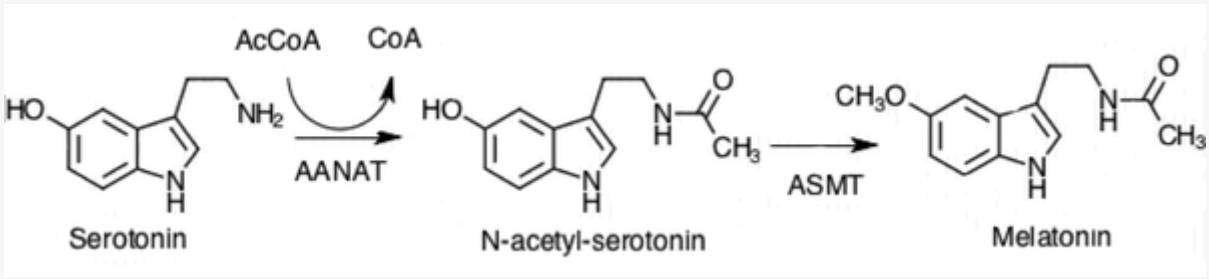
Another double-blinded, placebo-controlled study on 48 middle-aged subjects with mild to moderate sleep disturbances was conducted using *300* milligrams per day.[14] It noted significantly improved sleep profiles, greater total sleep time and sleep efficiency, and decreased time to fall asleep *and* wake back up in the morning.[15]

Overall, Lactium looks like a very unique and safe way to target the $GABA_A$

receptors while providing a time-released melatonin mechanism in the forefront.

- **Melatonin (as MicroActive Melatonin) – 2 mg**

A key ingredient in so many sleep aids, Sleep SR contains **2 milligrams of melatonin** – but in the form of a *sustained release* blend from **MicroActive melatonin**. According to Kaged's website, it gets released over the course of *seven hours* – 40% within the first hour, then the last 60% over the next 6-7 hours. This is shown in the image below:



The *natural* melatonin process. Aralkylamine N-acetyltransferase is involved in the in the day/night rhythm and production of melatonin. It does this via serotonin. Image courtesy Wikimedia Commons.

It's obviously meant to help you fall *and* stay asleep over the course of the night. Most know what melatonin does for them at this point, but below is a quick refresher:

How melatonin is made, and how it works

The body's *pineal gland* produces melatonin naturally through a multi-step process started above with L-Tryptophan, making its way to *5-hydroxytryptophan (5-HTP)*, which then interacts with *aromatic L-amino acid decarboxylase* to form *serotonin*, which then interacts with *hydroxyindole-O-methyltransferase* to generate *N-acetylserotonin*, before finally yielding melatonin.[2] These final steps are shown in the image below:

Melatonin is a hormone that has a calming and sedative effect on the brain.

The sunlight / blue light connection

The above process is initiated in the dark, or perhaps it's better to state that it's *suppressed* when there are large amounts of light.[16]

MicroActive Melatonin lasts longer and doesn't dump it on you all at once

You've likely heard about *blue light* and how it should be prevented before bed, and this is exactly why – too much sunlight inhibits melatonin production.[17] That makes perfect scientific, evolutionary sense – but it now applies to *artificial* blue light, such as those from electronics as well.[18] This is why it's so important to focus on quality sleep hygiene on top of proper nutrition and supplementation.

Melatonin sleep research

There are so many studies on supplemental melatonin at so many doses, it's impossible to cite them all. It's better to look at well-performed meta analyses, such as the one published in 2013 on 19 studies and 1683 subjects.[19] There, the scientists noted that melatonin consistently demonstrates statistically significant efficacy in helping users fall asleep faster while increasing total sleep time. They also noted that the longer trials worked better,[19] which is good for those who are concerned about habituation or tolerance.

The biggest challenge when formulating sleep aids is settling on a *dose*. We've seen them all, and in general, the greatest number of users seem to most enjoy the ingredient in the lower dose ranges, where there are fewer anecdotal "hangover" effects.

2 milligrams, especially since it's time-released, seems like a very reasonable yet effective dose – exactly what we expect from a Brian Rand formulated supplement.

Now it's time for the extra vitamin support:

- **Vitamin B6 (as pyridoxal 5′-phosphate) – 10 mg (588% DV)**

  Any sleep aid or relaxation supplement relying on production of serotonin (such as from tryptophan or 5-HTP) needs a solid dose of **Vitamin B6**. Why? Because it's a major part of the final step in serotonin's generation via *tryptophan hydroxylase*, an enzyme whose activity is strongly downregulated when facing Vitamin B6 deficiency![20]

  The *quality* form of Vitamin B6 – P5P!

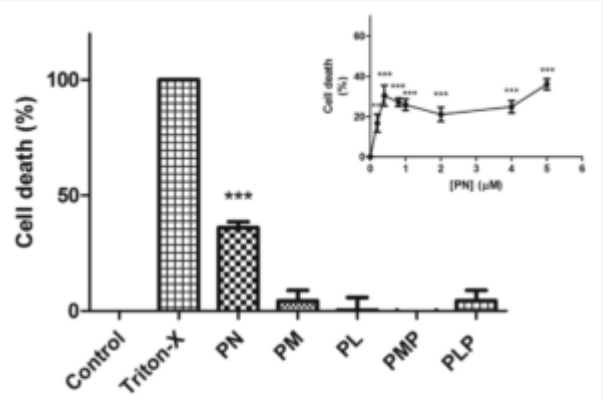


Fig. 2. Cell viability of SHSY5Y cells in the presence of the 5 different vitamin B6 vitamers at a concentration of 5 µM was measured with the MTT assay. Cells were exposed to these vitamers (pyridoxine (PN), pyridoxamine (PM), pyridoxal (PL), pyridoxamine-phosphate (PMP) and pyridoxal-phosphate (PLP)) for 24 h. Untreated cells were used as controls and results obtained with the vitamin B6 vitamers were compared to controls (which was set at 0%). Triton-X100 was used as a positive control. The effect of pyridoxine (PN) was also determined in a concentration-dependent manner (0–5 µM), which is shown in Fig. 1 insert. Data are shown as means ± SEM ($n = 4$). Differences were considered to be statistically significant when $P < 0.05$. $^{**}P < 0.01$; $^{***}P < 0.001$.

What's the deal with Pyridoxine causing all of that cell death?! It's probably best *not* to supplement it. In this chart, higher is WORSE![25]

Thankfully, Sleep SR has it included, and thankfully once again, they used the *high-quality* form in *pyridoxal 5′-phosphate*, also known as **P5P**. This is closer to the natural form that works best and is most easily absorbed in our bodies[21,22] (which we normally get from eating animal-based foods).

Far too often, we see cheaper forms of B6 like *pyridoxine*, which can get oversaturated and even potentially cause sensory neuropathy![23] In fact, it can even inhibit the enzymes that *depend* on vitamin B6, creating a negative feedback loop that limits absorption.[24] This is discussed in a paper titled *"The Vitamin B6 Paradox"*, which demonstrates how high concentrations of pyridoxine lead to *decreased* vitamin B6 function.[25]

Sleep SR avoids that by using a better – albeit more expensive – form.

Finally, as an added possible effect, the Vitamin B6 that's often used in ZMA supplements is reported to generate *vivid dreams!*[26] However, that data is based upon pyridoxine, which we just emphasized is *not* being used here, so we're not sure how well the dream effects translate to P5P.

- **Folate (as Quatrefolic (6S)-5-Methyltetrahydrofolic acid, Glucosamine Salt) – 200 mcg DFE (50% DV)**

To finish off Sleep SR as well as its serotonin-production trifecta, we have another high-quality vitamin that's used far too seldomly: **Folate** as ***5-MTHF***, more scientifically known as 5-Methyltetrahydrofolic. However, this isn't just any 5-MTHF supplement, it's a *glucosamine bound* salt named **Quatrefolic**. This form promises longer lasting stability and better bioavailability, water solubility, and a well-established safety profile.[27]

Why add folate?

Backing things up, folate is sometimes known as *Vitamin B9*, and you see it in so many prenatal supplements because it's essential for fetal development. However, it's also been shown to improve *mood*[28,29] – and it's likely due to interaction with the serotonin system. Folate supplements are often used alongside mood-altering drugs, with success at proper dose levels.[30]

Why use 5-MTHF?

See the Sleep SR Difference

Folate is often supplemented as the cheaper form in *folic acid*, but that involves several biologically-taxing steps that are required in order to make it to the *active* form, which is **5-MTHF**.[31,32]

But not all users can handle folic acid the same. Many of us have a genetic predisposition that impairs our ability to *generate* the active form discussed above, which are primarily due to mutations in our MTHFR genes which downregulate an important enzyme known as *methylenetetrahydrofolate reductase*.[33-35]

> This can lead to many problems for certain users, and the best thing for supplement manufacturers to do is to include the *active* form that we have here, which has better bioavailability data across greater populations.[36,37]
>
> With a folate you can *use*, the serotonergic system can function properly, getting you to the feel-good state you need to be in to fall asleep soundly. Otherwise, your body can remain in an anxious, panicked state, as it is deficient in a critical vitamin that it may want you to go hunt for. One less problem, one more step towards sleep.

As always, Kaged Muscle supplements are 3rd party tested and shown to be free of banned substances, all backed by a 100% money-back guarantee.

Dosage / Instructions

Per the dosage directions, take just one capsule 30-60 minutes before bed.

One Sleep SR Cap is all it takes

Kaged Muscle Pro-Biotic is a probiotic supplement using *Lactobacillus Plantarum TWK10*, which has been shown to improve athletic performance (likely by generating more ATP in the digestive tract)!

In just one capsule, we have a solid *feel-good* sleep aid that hits a couple of pathways, and hits them properly. It's fine to throw some melatonin at the problem, but it's even better to do it *properly* – by providing you with the substrates to make your *own* melatonin while also giving you a time-released boost exogenously.

With this and the recently released Pro-Biotic, Kaged Muscle has put out some

incredibly effective supplements lately, introducing new ingredients to the market – and both are convenient, coming in at only one capsule!

This isn't one of those supplements that is going to knock you out for three days – this is a wisely-formulated sleep aid that will gently bring you down, and allow yourself to come back up without drama. If you've been on edge and aren't sleeping well because of it, work on knocking out some of that stress – but also give yourself the tools to generate some serotonin while you're at it with a single cap of Sleep-SR.

References

1. *Young, Simon N.; "Acute Tryptophan Depletion in Humans: A Review of Theoretical, Practical and Ethical Aspects."; Journal of Psychiatry & Neuroscience : JPN 38.5 (2013): 294–305; http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3756112/*
2. *Bubenik, G A, and S J Konturek. "Melatonin and aging: prospects for human treatment." Journal of physiology and pharmacology : an official journal of the Polish Physiological Society vol. 62,1 (2011): 13-9; https://pubmed.ncbi.nlm.nih.gov/21451205/ (full-text PDF)*
3. *Mohammed-Zadeh, L. F., et al. "Serotonin: A Review." Journal of Veterinary Pharmacology and Therapeutics, vol. 31, no. 3, June 2008, pp. 187–199, 10.1111/j.1365-2885.2008.00944.x; https://pubmed.ncbi.nlm.nih.gov/18471139/*
4. *Gibson, E. L. "Tryptophan Supplementation and Serotonin Function: Genetic Variations in Behavioural Effects." Proceedings of the Nutrition Society, vol. 77, no. 2, 25 Jan. 2018, pp. 174–188, 10.1017/s0029665117004451; https://pubmed.ncbi.nlm.nih.gov/29368666/*
5. *Elshorbagy, Amany et al; "Amino acid changes during transition to a vegan diet supplemented with fish in healthy humans"; European journal of nutrition vol. 56,5;1953-1962; 2016; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5534203/*
6. *Hibbeln, JR, et al; "Vegetarian diets and depressive symptoms among men"; Journal of Affective Disorders; 225:13-17; Jan 1, 2018; https://www.ncbi.nlm.nih.gov/pubmed/28777971*
7. *Baines, S, et al; "How does the health and well-being of young Australian vegetarian and semi-vegetarian women compare with non-vegetarians?"; Public Health Nutrition; 10(5):436-42; May 2007; https://www.ncbi.nlm.nih.gov/pubmed/17411462*
8. *Jacka, F, et al; "Red Meat Consumption and Mood and Anxiety Disorders"; Psychotherapy and Psychosomatics; 81:196–198; 2012; https://www.karger.com/Article/Abstract/334910*
9. *Perry, C, et al; "Characteristics of vegetarian adolescents in a multiethnic urban population"; Journal of Adolescent Health; 29(6):406-16; December 2001; https://www.ncbi.nlm.nih.gov/pubmed/11728890*
10. *Bas, M, et al; "Vegetarianism and eating disorders: association between eating attitudes and other psychological factors among Turkish adolescents"; Appetite; 44(3):309-15; June*

2005; https://www.ncbi.nlm.nih.gov/pubmed/15927731

11. Hartmann, Ernest. “Effects of L-Tryptophan on Sleepiness and on Sleep.” Journal of Psychiatric Research, vol. 17, no. 2, Jan. 1982, pp. 107–113, 10.1016/0022-3956(82)90012-7; https://pubmed.ncbi.nlm.nih.gov/6764927/
12. Chebib, Mary, and Graham A R Johnston. “The ‘ABC’ of GABA Receptors: A Brief Review.” Clinical and Experimental Pharmacology and Physiology, vol. 26, no. 11, 4 Nov. 1999, pp. 937–940, 10.1046/j.1440-1681.1999.03151.x; https://pubmed.ncbi.nlm.nih.gov/10561820/
13. Simeone, Timothy A., et al. “Molecular Biology and Ontogeny of Gamma-Aminobutyric Acid (GABA) Receptors in the Mammalian Central Nervous System.” Journal of Child Neurology, vol. 18, no. 1, 1 Jan. 2003, pp. 39–48; discussion 49, 10.1177/08830738030180012101; https://pubmed.ncbi.nlm.nih.gov/12661937/
14. “Lactium: A proven effectiveness”; Retrieved September 14, 2021; https://web.archive.org/web/20210914154216/https://www.lactium.com/what-is-lactium/a-proven-effectiveness/
15. Kim, Hyeon Jin, et al. “A Double-Blind, Randomized, Placebo-Controlled Crossover Clinical Study of the Effects of Alpha-S1 Casein Hydrolysate on Sleep Disturbance.” Nutrients, vol. 11, no. 7, 27 June 2019, 10.3390/nu11071466; https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC6682925/
16. Hardeland, R. “Melatonin, hormone of darkness and more: occurrence, control mechanisms, actions and bioactive metabolites.” Cellular and molecular life sciences : CMLS vol. 65,13 (2008): 2001-18. doi:10.1007/s00018-008-8001-x; https://pubmed.ncbi.nlm.nih.gov/18344019/
17. Gooley, Joshua J et al. “Exposure to room light before bedtime suppresses melatonin onset and shortens melatonin duration in humans.” The Journal of clinical endocrinology and metabolism vol. 96,3 (2011): E463-72. doi:10.1210/jc.2010-2098; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047226/
18. Gooley, Joshua J et al. “Exposure to room light before bedtime suppresses melatonin onset and shortens melatonin duration in humans.” The Journal of clinical endocrinology and metabolism vol. 96,3 (2011): E463-72. doi:10.1210/jc.2010-2098; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047226/
19. Ferracioli-Oda, Eduardo, et al. “Meta-Analysis: Melatonin for the Treatment of Primary Sleep Disorders.” PLoS ONE, vol. 8, no. 5, 17 May 2013, p. e63773, 10.1371/journal.pone.0063773; https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3656905/
20. Green, A R et al; “Metabolism of an oral tryptophan load. I: Effects of dose and pretreatment with tryptophan”; British journal of clinical pharmacology; vol. 10,6: 603-10; 1980; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1430228/
21. McCormick D. Vitamin B6. In: Bowman B, Russell R, eds. Present Knowledge in Nutrition. 9th ed. Washington, DC: International Life Sciences Institute; 2006; https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=559786
22. Revuelta, José Luis et al. “Formation of folates by microorganisms: towards the biotechnological production of this vitamin.” Applied microbiology and biotechnology vol. 102,20 (2018): 8613-8620. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6153639/
23. Schaumburg, H, et al; “Sensory Neuropathy from Pyridoxine Abuse. A New Megavitamin Syndrome”; The New England Journal of Medicine; U.S. National Library of Medicine; 25 Aug. 1983; https://pubmed.ncbi.nlm.nih.gov/6308447
24. Ebadi, M, et al; “Hippocampal Zinc Thionein and Pyridoxal Phosphate Modulate Synaptic Functions.”; Departments of Pharmacology and Neurology, University of Nebraska College of Medicine; 1990; https://nyaspubs.onlinelibrary.wiley.com/doi/abs/10.1111/j.1749-6632.1990.tb28053.x
25. Vrolijk, Misha F, et al; “The Vitamin B6 Paradox: Supplementation with High Concentrations of Pyridoxine Leads to Decreased Vitamin B6 Function.”; Toxicology in Vitro : an International Journal Published in Association with BIBRA; U.S. National Library of Medicine; Oct. 2017; https://www.ncbi.nlm.nih.gov/pubmed/28716455
26. Ebben, Matthew, et al. “Effects of Pyridoxine on Dreaming: A Preliminary Study.” Perceptual and Motor Skills, vol. 94, no. 1, 1 Feb. 2002, pp. 135–140, pubmed.ncbi.nlm.nih.gov/11883552/, 10.2466/pms.2002.94.1.135; http://www.ncbi.nlm.nih.gov/pubmed/11883552
27. Miraglia, Niccolò, et al. “Enhanced Oral Bioavailability of a Novel Folate Salt: Comparison with Folic Acid and a Calcium Folate Salt in a Pharmacokinetic Study in Rats.” Minerva Ginecologica, vol. 68, no. 2, 1 Apr. 2016, pp. 99–105; https://pubmed.ncbi.nlm.nih.gov/27008238/
28. Godfrey, P.S.A, et al. “Enhancement of Recovery from Psychiatric Illness by Methylfolate.” The Lancet, vol. 336, no. 8712, Aug. 1990, pp. 392–395, 10.1016/0140-6736(90)91942-4;

https://pubmed.ncbi.nlm.nih.gov/1974941/

29. Taylor, Matthew J, et al. “Folate for Depressive Disorders.” Cochrane Database of Systematic Reviews, 22 Apr. 2003, 10.1002/14651858.cd003390; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6991158/

30. Roberts, Emmert, et al. “Caveat Emptor: Folate in Unipolar Depressive Illness, a Systematic Review and Meta-Analysis.” Journal of Psychopharmacology, vol. 32, no. 4, 14 Feb. 2018, pp. 377–384, 10.1177/0269881118756060; https://pubmed.ncbi.nlm.nih.gov/29442609/

31. Miller, Alan L. “The Methylation, Neurotransmitter, and Antioxidant Connections between Folate and Depression.” Alternative Medicine Review: A Journal of Clinical Therapeutic, vol. 13, no. 3, 1 Sept. 2008, pp. 216–226; https://pubmed.ncbi.nlm.nih.gov/18950248/

32. Bhargava, Seema, and S. C. Tyagi. “Nutriepigenetic Regulation by Folate-Homocysteine-Methionine Axis: A Review.” Molecular and Cellular Biochemistry, vol. 387, no. 1-2, 1 Feb. 2014, pp. 55–61, 10.1007/s11010-013-1869-2; https://pubmed.ncbi.nlm.nih.gov/24213682/

33. Gilbody, S., et al. “Methylenetetrahydrofolate Reductase (MTHFR) Genetic Polymorphisms and Psychiatric Disorders: A HuGE Review.” American Journal of Epidemiology, vol. 165, no. 1, 13 Oct. 2006, pp. 1–13, 10.1093/aje/kwj347; https://academic.oup.com/aje/article/165/1/1/232658

34. Rozen, R. “Molecular Genetics of Methylenetetrahydrofolate Reductase Deficiency.” Journal of Inherited Metabolic Disease, vol. 19, no. 5, 1996, pp. 589–594, 10.1007/BF01799831; https://pubmed.ncbi.nlm.nih.gov/8892013/

35. Lievers, Karin J., et al. “A Second Common Variant in the Methylenetetrahydrofolate Reductase (MTHFR) Gene and Its Relationship to MTHFR Enzyme Activity, Homocysteine, and Cardiovascular Disease Risk.” Journal of Molecular Medicine, vol. 79, no. 9, 5 July 2001, pp. 522–528, 10.1007/s001090100253; https://pubmed.ncbi.nlm.nih.gov/11692165/

36. Pietrzik, Klaus, et al. “Folic Acid and L-5-Methyltetrahydrofolate.” Clinical Pharmacokinetics, vol. 49, no. 8, Aug. 2010, pp. 535–548, 10.2165/11532990-000000000-00000; https://pubmed.ncbi.nlm.nih.gov/20608755/

37. Willems, Frank F, et al. “Pharmacokinetic Study on the Utilisation of 5-Methyltetrahydrofolate and Folic Acid in Patients with Coronary Artery Disease.” British Journal of Pharmacology, vol. 141, no. 5, 1 Mar. 2004, pp. 825–830, 10.1038/sj.bjp.0705446; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1574248/