

Tongkat Ali: [Testosterone Boosters Intake in Athletes: Current Evidence and Further Directions](#)

Effect	<ul style="list-style-type: none"> ● Study 1: A decrease of cortisol by 16%, and an increase of testosterone by +37% was noted in one RCT on healthy adults. ● Study 2: a significant increase in testosterone (from 8.0 ± 1.6 ng/mL). Free testosterone also increased significantly (from 9.4 ± 3.3 to 12.6 ± 5.9 pg/mL).
Trial Design	Systematic Review: two RCTs on Tongkat Ali in healthy populations
Trial Length	Study 1: 4 weeks Study 2: 2 weeks
Number of Subjects	Study 1: 63 Study 2: 32
Population	Study 1: Men and Women with moderate stress levels Study 2: Healthy men aged 24.4 ± 4.7 years
Dosage	Study 1: 200 mg/day of Physta™ Tongkat Ali Extract Study 2: 600mg/day Tongkat Ali extract

Endocrines | Free Full-Text | Testosterone Boosters Intake in Athletes: Current Evidence and Further Directions. (n.d.). Retrieved March 18, 2022, from <https://www.mdpi.com/2673-396X/2/2/11>

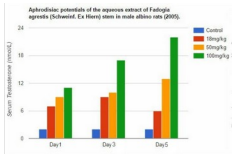
[Examining the Effects of Herbs on Testosterone Concentrations in Men: A Systematic Review: Ashwagandha](#)

Effect	<p>Three of the 4 studies demonstrated positive effects of ashwagandha supplementation on testosterone concentrations in men. One study using KSM-66® was associated with a significant increase in testosterone concentrations (17.3% increase) after 90 d compared with the placebo group (3.8% increase) (P < 0.01). Another study showed that the ashwagandha group significantly increased testosterone concentrations (11.4%) compared with baseline values (P = 0.038)</p>
Trial Design	Systematic Review; Three studies used a randomized, double-blind, placebo-controlled study design and 1 study used a randomized, double-blind,

	placebo-controlled, crossover study design
Trial Length	~8 wks
Number of Subjects	4 studies
Population	A total of 197 male participants were recruited for the studies, with ages ranging from 18 to 70 y and sample sizes ranging from 46 to 60 participants.
Dosage	Two studies used a patented ashwagandha root extract, KSM-66®, manufactured by Ixoreal (using a water-based extraction process, standardized to 5% withanolides) (35, 62), and the other 2 studies used another patented root and leaf extract, Shoden®, manufactured by Arjuna Natural (using a 70:30 ethanol:water extraction process, standardized to 35% withanolide glycosides). <ul style="list-style-type: none"> ● KSM study dosage: 600-675mg daily. ● Shoden® study dosage: 21 mg of withanolide glycosides daily

Smith, S., Lopresti, A., Teo, S., & Fairchild, T. (2020). Examining the Effects of Herbs on Testosterone Concentrations in Men: A Systematic Review. *Advances in Nutrition*, 12. <https://doi.org/10.1093/advances/nmaa134>

Fadogia Agrestis



- The aqueous extract of Fadogia agrestis stem increased the blood testosterone concentrations and this may be the mechanism responsible for its aphrodisiac effects and various masculine behaviors. It may be used to modify impaired sexual functions in animals, especially those arising from hypotestosteronemia (Yakubu et al., 2005).

Yakubu, M. T., Akanji, M. A., & Oladiji, A. T. (2005). Aphrodisiac potentials of the aqueous extract of Fadogia agrestis (Schweinf. Ex Hiern) stem in male albino rats. *Asian journal of andrology*, 7(4), 399–404. <https://doi.org/10.1111/j.1745-7262.2005.00052.x>

Comparative effects of daily and weekly boron supplementation on plasma steroid hormones and proinflammatory cytokines

Effect	Resulted in a statistically significant increase in the level of free testosterone, from 11.8 pg/mL to 15.2 pg/mL
Trial Design	Non-randomized controlled trial
Trial Length	1 week
Number of Subjects	8
Population	Young males between the ages of 18-29 years old
Dosage	10 mg daily

Naghii, M. R., Mofid, M., Asgari, A. R., Hedayati, M., & Daneshpour, M.-S. (2011). Comparative effects of daily and weekly boron supplementation on plasma steroid hormones and proinflammatory cytokines. *Journal of Trace Elements in Medicine and Biology: Organ of the Society for Minerals and Trace Elements (GMS)*, 25(1), 54–58. <https://doi.org/10.1016/j.jtemb.2010.10.001>

Zinc status and serum testosterone levels of healthy adults

Effect	Zinc supplementation of marginally zinc-deficient normal elderly men for six months resulted in an increase in serum testosterone from 8.3 +/- 6.3 to 16.0 +/- 4.4 nmol/L (p = 0.02).
Trial Design	Comparative Study
Trial Length	6 Months
Number of Subjects	40 men
Population	20 to 80 y of age
Dosage	459 mumol (30mg) of elemental zinc (administered as zinc gluconate) per day

As, P., Cs, M., Fw, B., Jw, H., & Gj, B. (1996). Zinc status and serum testosterone levels of healthy adults. *Nutrition (Burbank, Los Angeles County, Calif.)*, 12(5). [https://doi.org/10.1016/s0899-9007\(96\)80058-x](https://doi.org/10.1016/s0899-9007(96)80058-x)
Dim: Effectiveness of DIM Supplements to Increase 2-OHE1/16 Ratio

Effects of A Breast-Health Herbal Formula Supplement on Estrogen Metabolism in Pre- and Post-Menopausal Women not Taking Hormonal Contraceptives or Supplements: A Randomized Controlled Trial

Effect	Supplementation of 200 milligrams Indole-3-Carbinol per day
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	led to increased metabolism of estrogen, suggesting that this ingredient can promote a healthy serum estrogen balance. DIM may confer a mechanism for the reduction of breast cancer risk as well as risk for other estrogen-related cancers.
Trial Design	Randomized Control Trial
Trial Length	28 days
Number of Subjects	48 healthy pre-menopausal women aged 19 to 54, and 50 healthy post-menopausal women aged 46 to 70
Population	Pre- and post-menopausal women
Dosage	200 mg /day of Indole-3-Carbinol (a less stable form of DIM)

Effects of Magnesium Supplementation on Testosterone Levels of Athletes and Sedentary Subjects at Rest and after Exhaustion

Effect	Plasma testosterone levels were higher in groups which exercised and supplemented with magnesium, exercise and magnesium supplementation led to significant increases in free testosterone values (p<0.05).
Trial Design	Non-randomized control trial
Trial Length	4 weeks
Number of Subjects	30
Population	Healthy male subjects of ages between 18 and 22 years
Dosage	10 mg magnesium (as MgSO ₄) per kilogram body weight per day

Saw palmetto: A double blind, placebo-controlled randomized comparative study on the efficacy of phytosterol-enriched and conventional saw palmetto oil in mitigating benign prostate hyperplasia and androgen deficiency

Effect	Supplementation led to a significant decrease 5 α -reductase activity, and a significant increase in serum free testosterone compared to subjects receiving a placebo.
Trial Design	Double blind, placebo-controlled randomized comparative

	study
Trial Length	12-weeks
Number of Subjects	90
Population	40–65 years with symptomatic BPH were randomized to double-blind treatment with 500 mg doses of β -sitosterol enriched saw palmetto oil, conventional saw palmetto oil and placebo orally in the form of capsules (n = 33 in each group).
Dosage	500 mg doses of saw palmetto oil (high β -sitosterol content)

Sudeep, H. V., Thomas, J. V., & Shyamprasad, K. (2020). A double blind, placebo-controlled randomized comparative study on the efficacy of phytosterol-enriched and conventional saw palmetto oil in mitigating benign prostate hyperplasia and androgen deficiency. *BMC Urology*, 20(1), 86. <https://doi.org/10.1186/s12894-020-00648-9>

[Vitamin B6 \(P5P\): Safety and Efficacy of High-Dose Vitamin B6 as an Adjunctive Treatment for Antipsychotic-Induced Hyperprolactinemia in Male Patients With Treatment-Resistant Schizophrenia](#)

Effect	Vitamin B6 supplementation led to an average of a 68.1% reduction in serum prolactin levels.
Trial Design	Randomized double-blinded controlled study
Trial Length	16 weeks
Number of Subjects	200
Population	Patients with Treatment-Resistant-Schizophrenia, adult males between 20 and 40 years of age.
Dosage	300 mg/12 h

Zhuo, C., Xu, Y., Wang, H., Fang, T., Chen, J., Zhou, C., Li, Q., Liu, J., Xu, S., Yao, C., Yang, W., Yang, A., Li, B., Chen, Y., Tian, H., & Lin, C. (2021). Safety and Efficacy of High-Dose Vitamin B6 as an Adjunctive Treatment for Antipsychotic-Induced Hyperprolactinemia in Male Patients With Treatment-Resistant Schizophrenia. *Frontiers in Psychiatry*, 12.

[Effect of vitamin D supplementation on testosterone levels in men](#)

Effect	Vitamin D supplementation led to significant increases in total
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	testosterone levels (from 10.7±3.9 nmol/l to 13.4±4.7 nmol/l; p<0.001), bioactive testosterone (from 5.21±1.87 nmol/l to 6.25±2.01 nmol/l; p=0.001), and free testosterone levels (from 0.222±0.080 nmol/l to 0.267±0.087 nmol/l; p=0.001). The placebo group did not experience any significant changes in testosterone measures.
Trial Design	Randomized Control Trial
Trial Length	12 months
Number of Subjects	54
Population	Men (age range not specified, greater than 20+ years old)
Dosage	3,332 IU/day

Pilz, S., Frisch, S., Koertke, H., Kuhn, J., Dreier, J., Obermayer-Pietsch, B., Wehr, E., & Zittermann, A. (2011). Effect of Vitamin D Supplementation on Testosterone Levels in Men. *Hormone and Metabolic Research*, 43(3), 223–225. <https://doi.org/10.1055/s-0030-1269854>