



# HerbClip™

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**File: ■ Tongkat Ali (*Eurycoma longifolia*)**  
**■ Hormone Balance**  
**■ Mood**

**HC 071322-484**

**Date: November 15, 2013**

**RE: Tongkat Ali Standardized Extract Improves Testosterone and Stress Hormone Balance and Mood Parameters in Subjects with Moderate Stress**

Talbott SM, Talbott JA, George A, Pugh M. Effect of tongkat ali on stress hormones and psychological mood state in moderately stressed subjects. *J Int Soc Sports Nutr.* 2013;10(1):28. doi: 10.1186/1550-2783-10-28.

Tongkat ali (TA; *Eurycoma longifolia*) root water extract is used as an adaptogen for vitality and energy, and for enhancing testosterone. While the precise mechanism of TA root extract is unknown, it has been suggested that TA helps restore normal testosterone levels by increasing the release of free testosterone from its binding hormone, sex hormone-binding globulin. There are many benefits of TA which are maintaining a more youthful testosterone level,<sup>1</sup> including higher physical vigor and strength.<sup>2</sup> The objective of this randomized, double-blind, placebo-controlled study was to evaluate the effects of TA extract on stress hormone balance (cortisol/testosterone) and psychological mood state in moderately stressed subjects.

This study was conducted by SupplementWatch in Draper, Utah. Seventy-five subjects in and around Salt Lake City, Utah were recruited and screened for moderate levels of psychological stress using a screening survey. Those who scored 6 or greater (6-10 indicating moderate stress) on the survey were eligible for enrollment. Sixty-four subjects (32 men and 32 women) were randomly assigned to receive either TA 200 mg/day (Physta®; Biotropics Malaysia Berhad; Shah Alam, Selangor, Malaysia) or placebo for 4 weeks. Researchers used the same standardized, patented (United States Patent # 7,132,117), hot water-extracted TA standardized to 22% euryptides that has been used in previous human TA supplementation studies. The patent discloses a process where TA roots undergo an aqueous extraction and, when combined with high-performance liquid chromatography (HPLC) and size-exclusion chromatography, yield a bioactive peptide fraction (a 4300 dalton glycopeptide with 36 amino acids) responsible for the effects in restoring testosterone levels.

At baseline and post-supplementation, mood state and hormone profile were analyzed as primary outcome measurements. The researchers did not separate results for males and females but only reported their combined data. Mood state was assessed using the

validated Profile of Mood States (POMS) survey. Free cortisol and testosterone levels were assessed in saliva samples collected at 3 time points during each collection day (morning, afternoon, and evening) at baseline and after 4 weeks of supplementation. Secondary measurements included liver enzymes (alanine aminotransferase [ALT] and aspartate aminotransferase [AST]), body weight, and body fat percentage. 63 subjects (32 men and 31 women) completed the study. One woman in the supplement group did not return final samples. Three subjects reported feeling unusually fatigued during the first 2 weeks of the study (2 subjects in the TA group and 1 subject in the placebo group). There were no other adverse events or side effects reported.

There were no significant changes in markers of liver function (AST/ALT), body weight, or body fat percentage. Mood state surveys showed mixed results, with no effect observed between groups for parameters of depression, vigor, or fatigue. Significant improvements were found in the TA group compared to placebo for tension (-11%), anger (-12%), and confusion (-15%). A nonsignificant trend ( $P = 0.083$ ) was found for an improvement in overall wellbeing in the TA group (+3% in global mood state). Salivary free cortisol and free testosterone levels were significantly improved by TA supplementation, with reduced cortisol (-16%), increased testosterone (+37%), and overall improved cortisol/testosterone ratio (-36%) compared to placebo. Error bars are shown in the figures; however, there is no indication of whether they signify standard error or standard deviation. They are remarkably stable, however. Authors did not specify the time of day or the day of the female cycle that the samples were taken.

The authors conclude that TA root extract supplementation can influence anabolic/catabolic stress hormone balance and mood state parameters in subjects with moderate stress levels. They found that 200 mg/day supplementation of patented, standardized, water-extracted TA (Physta) improved stress hormone profile by significantly lowering cortisol and increasing testosterone levels. TA supplementation was also found to significantly lower certain negative mood state parameters (tension, anger, and confusion). Future trials should have larger cohorts and separate results for males and females.

—Alexis Collins

## References

<sup>1</sup>Keller AC. Tongkat ali aqueous extract shows promise in study for men who are symptomatic of hypogonadism due to low testosterone. *HerbClip*. November 15, 2011 (No. 071165-436). Austin, TX: American Botanical Council. Review of Standardised water-soluble extract of *Eurycoma longifolia*, tongkat ali, as testosterone booster for managing men with late-onset hypogonadism? by Tambi MIBM, Imran MK, Henkel RR. *Andrologia*. 2012;44(Suppl 1):226-230.

<sup>2</sup>Oliff HS. A Malaysian tongkat ali extract (Physta™) increases quality-of-life benefits in men. *HerbClip*. January 15, 2013 (No. 121251-464). Austin, TX: American Botanical Council. Review of Randomized clinical trial on the use of PHYSTA freeze-dried water extract of *Eurycoma longifolia* for the improvement of quality of life and sexual well-being in men by Ismail SB, Wan Mohammad WMZ, George A, Nik Hussain NH, Musthapa Kamal ZM, Liske E. *Evid Based Complement Alternat Med*. 2012;2012:429268. doi: 10.1155/2012/429268.

Referenced article can be found at [www.jssn.com/content/10/1/28](http://www.jssn.com/content/10/1/28).

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