



 **Physta**

Physta® Tongkat Ali: The Science-Backed Powerhouse for Vitality, Energy and Beyond

Performance Ingredient by



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Executive Summary

Physta® Tongkat Ali is a standardized and clinically validated herbal extract designed to enhance energy, vitality and overall well-being. As demand for natural, effective health solutions grows, Physta® stands out due to its unique extraction process, robust scientific backing of 20+ clinical studies and diverse applications. This whitepaper explores market insights, its advantages over competing herbal extracts, formulation potential and emerging opportunities.

Introduction: Market Insights, Industry Trends and New Research



1. Global Demand for Men's Health Supplements

The global men's health supplement market is experiencing rapid growth, driven by increasing consumer awareness of natural alternatives for boosting energy, vitality and stress management. With modern lifestyles becoming more demanding, men are actively seeking solutions to enhance physical performance, mental resilience and overall wellness.

Key segments within this category include testosterone boosters, adaptogenic stress relievers and cognitive support supplements.

Tongkat Ali has emerged as a highly sought-after ingredient due to its scientifically backed benefits in these areas and is primed to join the shift in market in a mainstream wellness movement.

Sexual health supplements evolving beyond male performance enhancers into a mainstream wellness movement

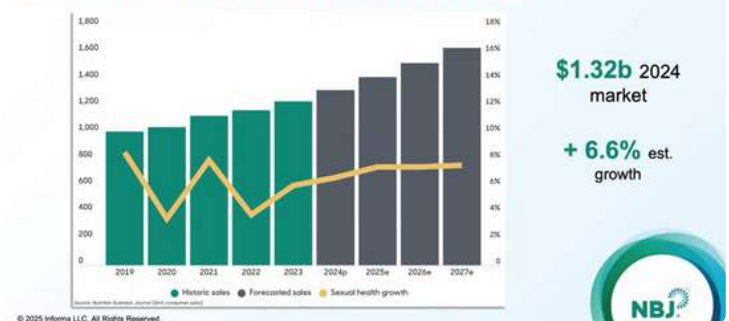


Figure 1: Sexual Health Supplements market growth according to Nutrition Business Journal, 2025.



- “Physta® is **the most clinically studied Tongkat Ali extract**, with decades of research validating its benefits in ● male vitality ● stress resilience ● hormonal balance ● performance enhancement.”

Physta® is backed by more than 20 human clinical studies, making it one of the most extensively researched Tongkat Ali (*Eurycoma longifolia*) extracts on the market. These studies span a wide range of health domains including testosterone support[1], fertility [2], energy and vitality [3], stress and mood balance [4], immune health [5] and physical performance [6].

2. An Example of Physta®'s Established Use and Findings

Study 1: Standardised water-soluble extract of *Eurycoma longifolia*, Tongkat ali, as testosterone booster for managing men with late-onset hypogonadism (2011).

Dosage & duration: 200 mg per day, for 4 weeks

Findings:

- Significantly improved the AMS score as well as the serum testosterone concentration by 46.8%.
- AMS of subjects before treatment without complaints increased from 10.5% to 71.7%
- Only 35.5% of subjects had normal testosterone levels before treatment, which then rose to 90.8% showing normal values.

Conclusion:

Physta® is able to improve Ageing Male Symptoms (AMS) and increase serum testosterone levels.

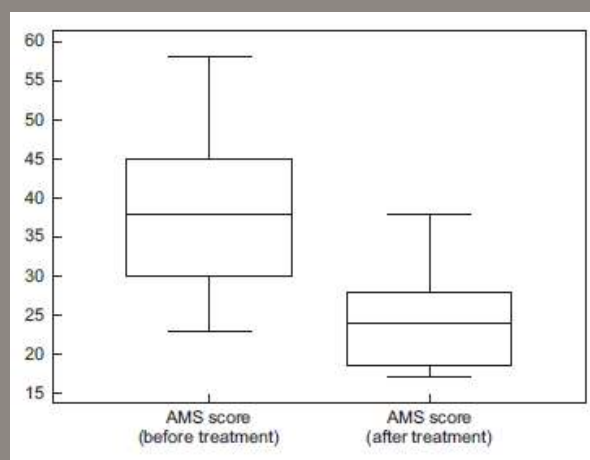
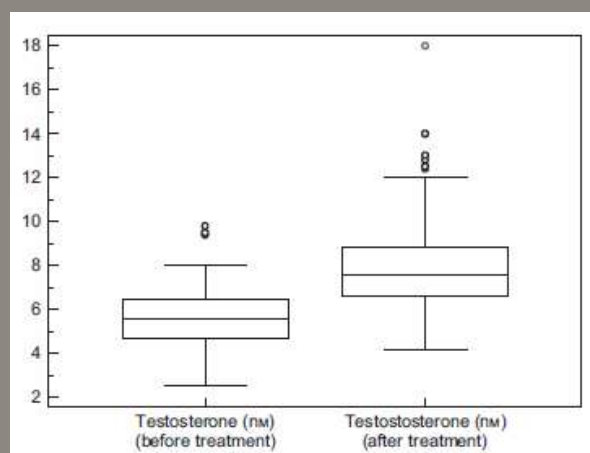


Figure 2: Plot charts showing before and after results for testosterone levels and AMS scores.

References:

- [1], Study 1: Tambi & Henkel (2011)
- [2] Tambi & Imran (2010)
- [3] Ismail, et al. (2012)
- [4] Talbott, S.M., Talbott, J.A., George, A. and Pugh, M. (2013)
- [5] George, A., Suzuki, N., Abas, A., Mohri, K., Utsuyama, M., Hirokawa, K. and Takara, T. (2016)
- [6] Leitao, et. al. 2021)



3. Beyond Men's Health: Expanding Applications in Microbiome

Study 2: Impact of Eurycoma longifolia (Physta®) on Gut Microbiome Composition: A Case Study Using Precision Microbiome Profiling_(2025).

Dosage & duration: 100mg daily after food, for 30 days

Findings:

- Increased good bacteria like Bifidobacteria and Lactobacilli, while reducing harmful bacteria like Proteobacteria.
- Raised the levels of SCFA-producing bacteria (like Faecalibacterium prausnitzii)
- helped create a richer and more even mix of gut microbes

Conclusion:

Physta® could Improves gut health and balance, boosts anti-inflammatory protection and enhance microbial diversity for overall wellness.

References:

- [7] Talbott, S.M., Talbott, J.A., George, A. and Pugh, M. (2013)
 [8], Study 1: Reichelt, Anne-Grethe G., Priya Kandannur, Annie George, and Sasikala M. Chinnappan (2025)
 [9] Ono, T., Nishino, N., Iwai, Y., Iwai, Y., Sakai, N., Kuroki, Y., & Nishino, S. (2023)
 [10] George, A., Suzuki, N., Abas, A., Mohri, K., Utsuyama, M., Hirokawa, K. and Takara, T. (2016)

“New benefit areas for Physta® Tongkat Ali such as **stress & mood, **microbiome** affecting **sleep & immunity** as well as **women's health**”**

Traditionally recognized for its role in men's health, Tongkat Ali is now gaining traction in broader wellness applications. Scientific research is revealing its potential impact on mood regulation[7], microbiome health[8], sleep enhancement[9] and immune function[10]. Consumers today are looking for holistic wellness solutions that address multiple aspects of health, and Physta® is uniquely positioned to meet these demands. This shift in market perception opens up new opportunities for Tongkat Ali in diverse supplement formulations beyond just male-centric products.

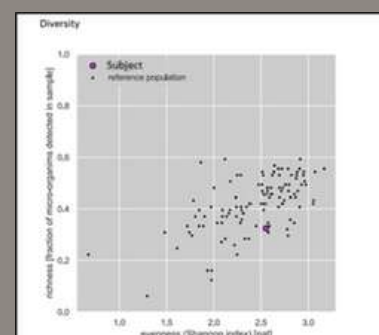


Fig. 2. Diversity of microbes before treatment

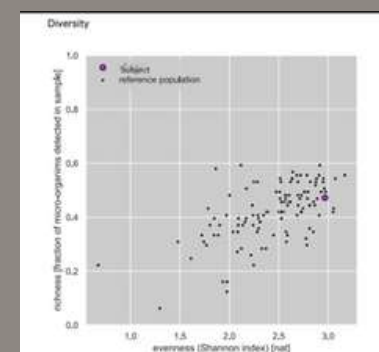


Fig. 3. Diversity of microbes after treatment

Figure 3: Comparison chart showing movement of subject (purple circle) into quadrant with better microbial richness and evenness compared to reference population data

Report from the World Economic Forum states that while gender parity had passed important milestone in recent years, much needs to be done to close the women's health gap. From access to care and even research, women are often under-diagnosed and under-researched despite representing half of the world's labour force (47.8%) and are highest in some of the poorest and richest countries in the world [11].



4. Tongkat Ali for Women? Why YES!

Early studies in Tongkat Ali for women showed great finding related to strength, muscle, bone health and mental wellness. Biotropics Malaysia continues to strengthening its proprietary herbal ingredients for women's health through clinical research that just concluded in 2024 and set to be published in 2025:

Study 3: Effects of Eurycoma longifolia Jack standardised water extract (Physta) on well-being of perimenopausal and postmenopausal women: protocol for a randomised, double-blinded, placebo-controlled, parallel group study, 2025 (Unpublished Report)

Dosage & Duration: 50 mg, 100 mg Physta® or placebo for 3 months

Findings:

Improved symptoms of Menopausal Quality of Life (MENQOL); such as psychosocial, vasomotor, physical, sexual domains, as well as total MENQOL scores.

Conclusion:

Physta® is able to improve menopausal symptoms in midlife women, supporting mood, energy and libido.

MENQOL = Menopause-Specific Quality of Life question-
A lower MENQOL score indicates better quality of life



Vasomotor Improvement



- Fewer and less intense hot flashes
- Improved sleep
- Better thermoregulation comfort



Psychosocial Improvement



- More stable moods and reduced anxiety
- Improved cognitive clarity
- Better emotional resilience and social interactions



Physical Improvement



- Increased energy levels
- Less joint and muscle pain
- Improved sleep quality and daily function



Sexual Improvement



- Increased sexual interest
- Improved comfort during intimacy
- Better confidence and body image

Figure 4: An overview of how improvement in Menopausal Quality of Life (MENQOL) improves menopausal symptoms, mood, energy and libido.

References:

[11] Our World in Data, March 2024. "Women's Employment - How does women's labor force participation differ across countries? How has it changed over time? What is behind these differences and changes?". <https://ourworldindata.org/female-labor-supply>
Study 3: Muniandy S, Yahya HM, Shahar S, Kamisan Atan I, Mahdy ZA, Rajab NF, George A, Chinnappan SM (2023).

5. Beyond Men's Health: Expanding Applications in Sleep and Immunity

Study 4: Randomized Controlled Trial of the Effects of Tongkat Ali Intake on Stress Markers and Sleep Quality in Healthy Japanese Adults (2024).

Dosage & duration: 402mg per day for 30 days

Findings:

- Significant improvements in Tongkat Ali group in POMS (specifically 'Vigor' and 'friendliness' domains) and
- 'sleepiness on rising' from the Oguri-Shirakawa-Azumi sleep inventory, MA version (OSA-MA).

Conclusion:

Improve stress markers and consequently improve the sleep quality in healthy Japanese adults.



Study 5: Immunomodulation in Middle-Aged Humans Via the Ingestion of Physta® Standardized Root Water Extract of Eurycoma longifolia Jack—A Randomized, Double-Blind, Placebo-Controlled, Parallel Study (2016).

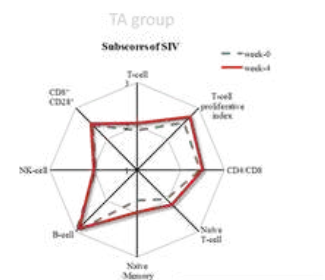
Dosage & duration: 200 mg per day, for 4 weeks

Findings:

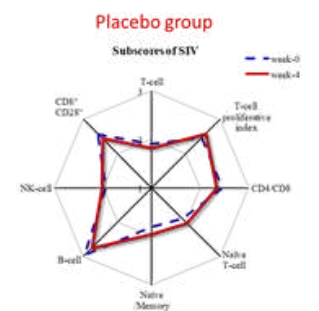
- In TA group, T cells, Naive T cells and Lymphocytes showed significant differences as compared to placebo
- Score for Immunological Vigor (SIV) showed significant improvement in TA group
- Immunological age decreased by 4 years (more robust immune system)

Conclusion:

Physta® enhances comprehensive immunity in both middle-aged men and women.



Compared with week-0, T cell, Naive T cell, and Naive/Memory ratio increased after week-4



Compared with week-0, mostly unchanged

Figure 5: Excerpt from study report showing changes in immune biomarkers between Physta® (TA Group) and placebo subjects.

References:

- Study 4: Haruki, Toyama, et. al. (2022)
Study 5: George, A., Suzuki, N., Abas, A., Mohri, K., Utsuyama, M., Hirokawa, K. and Takara, T. (2016)

Physta® - The ONLY Tongkat Ali that matters.



Physta® Tongkat Ali is:

- Clinically researched
- Standardized
- Patented
- Authentic Malaysian Sourced
- ISO 22000/GMP/cGMP/GHP
- Halal & Kosher

1. What is Physta®?

Physta® is extracted from the roots of Tongkat Ali using patented extraction technology which was developed through the collaborative work between the Malaysian government and the renowned Massachusetts Institute of Technology (MIT). Physta® has been shown to **increase testosterone synthesis, testosterone release from cells, sperm count and sperm motility** [12]. Newer patented applications include areas such as **immunity and anti-viral/dengue** [13], which is a part of the **70+ patents** in total filed by Biotropics globally.

Physta® undergoes a proprietary extraction technology to ensure consistent potency and efficacy. Unlike conventional Tongkat Ali extracts, Physta® is crafted using validated authentic source materials (Malaysian Tongkat Ali root) and undergoes a meticulous process that preserves bioactive compounds, resulting in superior reproducibility and effectiveness.

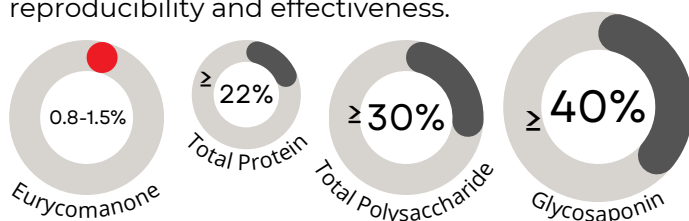


Figure 6: Physta® Tongkat Ali is the benchmark extract used for the development on MS Standard for Tongkat Ali Extract (MS2409:2011).

References:

[12] Bioactive fraction of eurycoma longifolia (WO2002017946A1)

[13] Eurycoma longifolia extract and its use in enhancing and/or stimulating immune system (US11166998B2)



2. Mechanism of Action

Physta® exerts its benefits through multiple physiological pathways. It is hypothesized that “eurycomanone, a quassinoid of *Eurycoma longifolia* Jack, enhanced steroidogenesis by inhibiting aromatase conversion of testosterone and at a higher dose, may also involve phosphodiesterase (PDE) inhibition” (B.S. Low, 2013).

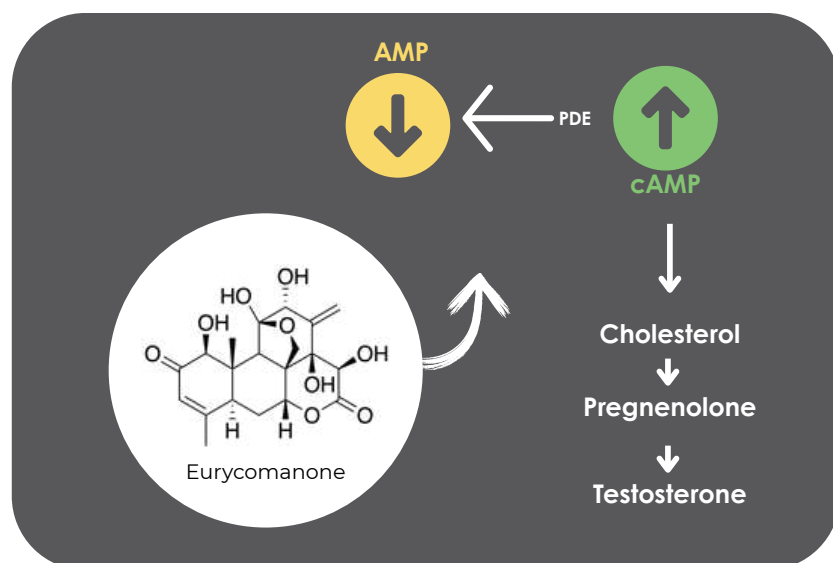


Figure 7: Mechanism of action pathway from B.S. Low, 2013 depicting inhibition of phosphodiesterase (PDE and aromatase conversion resulting in increased testosterone.

Physta® has been scientifically shown to support healthy testosterone levels, which are essential for muscle strength, endurance and overall vitality. Additionally, it modulates cortisol levels, promoting stress resilience and reducing fatigue. Emerging research suggests that Physta® also influences neurotransmitter, dopamine [8], contributing to enhanced motivation, mood, cognitive performance and overall mental well-being.



Physta® Clinically Researched Benefits:



+46.8% Improvement of testosterone



-37.8% Reduction of ageing symptoms, AMS



+30% increase in muscle strength (with exercise)



-11 to -15% Reduced negative mood profile



-16% Reduction in cortisol



Significant increase in Physical Functioning i.e. energy



Significant improvement in immunity age by 4 years!

References:

[14] Ang, J. J., Shivashekaregowda, N. K. H., Yow, H. Y., Rizwan, F., Wong, P. F., Jantan, I., ... Low, B. S. (2024).

3. Quality and Clinical Validation

Physta® is manufactured under stringent quality standards to ensure purity, safety and efficacy.

Multiple clinical studies validate its effectiveness in improving physical performance, reducing stress markers, and enhancing overall well-being.

The extensive research behind Physta® distinguishes it from generic Tongkat Ali extracts, reinforcing its credibility and trustworthiness in the nutraceutical market.



CLINICAL RESEARCH AREAS

Men's Health (testosterone, fertility & sexual Health)

Sport Performance

Energy & Vitality

Healthy Ageing (Immunity & Stress)

NEW – Women's Health

Anti-viral (dengue, COVID), glucose management, kidney health, microbiome and more

9 CLINICAL STUDIES

5 CLINICAL STUDIES

2 CLINICAL STUDIES

3 CLINICAL STUDIES

1 CLINICAL STUDY

5 STUDIES



4. Fallacy of Ratio-Based Extracts vs. Standardization

Many Tongkat Ali products on the market claim potency through high extraction ratios such as 100:1 or 200:1. However, these figures do not necessarily translate to better efficacy. True effectiveness is determined by the standardization of bioactive compounds rather than arbitrary extraction ratios. Physta® is standardized against four key bioactive markers, ensuring consistency and optimal potency. In contrast, non-standardized extracts may contain excessive or imbalanced compounds that could reduce efficacy or even pose risks.



Table 1: Results from market monitoring testing conducted at Biotropics Malaysia lab involving Tongkat Ali samples from various countries.

Source	Sample Label	Eurycomanone (%w/w)	Total Protein (%)	Total Polysaccharides (%)	Glycosaponin (%)
Malaysia	Standardised Tongkat Ali water extract according to Malaysian Standards MS2409:2011 @Physta®	0.8-1.5	≥22	≥30	≥40
Malaysia	Tongkat Ali Powder Extracts (100:1)	1.23	26.7	31.30	52.5
	Tongkat Ali Extract 0.1-0.3%	0.07	5.44	23.09	21.7
	Tongkat Ali Extract 2-3%	0.68	17.12	29.25	37.9
Indonesia	XX One Hundred	0.53	25.37	46.66	30.6
	TA 50:1	0.51	6.92	69.20	28.3
	TA Water Soluble Extract 100:1	1.40	30.00	23.24	53.6
Japan	Tongkat Ali 100 fold Concentrated	0.80	21.55	N/A	N/A
China (1)	1% Eurycomanone	1.09	63.98	10.65	71.0
	3% Eurycomanone	2.16	51.61	3.00	73.0
	10% Eurycomanone	11.67	50.81	3.15	88.3
China (2)	2% Eurycomanone	1.67	42.6	5.85	67.1
	5% Eurycomanone	3.16	70.06	9.60	74.0
	8% Eurycomanone	6.97	32.31	21.59	70.9
China (3)	1% Eurycomanone	1.02	23.10	33.89	62.70
	Eurycomanone ≥ 1.0%	0.61	19.30	50.54	53.19
	Eurycomanone ≥ 2%	1.86	23.50	41.24	63.13
	Specification: 10:1, Eurycomanone ≥ 1%	0.98	19.90	48.44	52.57
China (4)	200:1	0.05	0.10	80.80	3.70
	100:1	0.06	0.10	81.00	3.80
	200:1 (Source 2)	0.25	6.20	58.50	44.70

The supplier names for the extracts above are undisclosed. Based on the table above, it is apparent that the extracts based on **extract ratio do not represent a more potent version of the standardized extract** if one were to use eg. eurycomanone as the indicator. Furthermore, the extract with high content of eurycomanone is possibly produced by organic solvent extraction which is not the method used in traditional preparation for which safety and efficacy is available. The standardized Tongkat Ali aqueous extract standardized according to Malaysian Standards 2401:2011 is the only extract with extensive clinical studies demonstrating safety and efficacy.

Furthermore, while eurycomanone is a crucial marker, excessive standardization beyond the clinically studied range of 0.8% to 1.5%, has not been clinically validated for safety or toxicology may introduce toxicity concerns. Compounds at significantly higher levels have not been rigorously researched for safety, making such extracts potentially unsuitable for long-term use. Only extracts with proper clinical validation, such as Physta®, should be considered for safe and effective supplementation.

Eurycoma longifolia



5. Comparative Analysis: Physta® vs. Other Herbal Extracts

i. Key Differentiators

Physta® stands out due to its extensive clinical validation and multifunctional health benefits. Unlike generic Tongkat Ali, which varies in potency and efficacy, Physta® is standardized to deliver consistent results. Its ability to support testosterone levels, enhance mood and boost immunity positions it ahead of many other herbal extracts used in the wellness industry

ii. Tongkat Ali vs. Other Adaptogens

While Tongkat Ali is also widely recognized for its adaptogenic properties, Physta® has a stronger positioning in key areas such as:

1. **Stronger positioning for men's health** – Physta® has a more established body of research specifically supporting its role in male vitality, performance and hormone regulation.
2. **Stronger positioning for testosterone support** – Scientific studies provide greater validation for Physta® in promoting healthy testosterone levels compared to other adaptogens.
3. **Energy and performance niche** – Tongkat Ali can be uniquely positioned for energy enhancement, a category where most adaptogens have limited focus.

“Adaptogens are herbs, roots and other plant substances that assist the body to manage stress and restore balance for an overall well being”





6. Applications and Formulation Benefits

i. Ideal Use Cases

Physta® is an excellent ingredient for multiple wellness applications. In **men's health and testosterone support**, it helps improve vitality, endurance and overall physical performance. For **energy and performance enhancement**, it is an ideal component of sports nutrition formulations. Its **stress and mood-balancing properties** make it valuable in mental wellness and relaxation supplements. Additionally, recent findings suggest that Physta® may play a role in **improving sleep quality and recovery**, further extending its application scope. Research is also uncovering potential benefits for **immune function and microbiome health**, aligning with the growing interest in gut-brain axis solutions.

ii. Dosage and Product Formats

Physta® is versatile and can be formulated into various product formats between daily doses of 50mg - 200mg as **capsules, powders, ready-to-drink (RTD) beverages** and **functional foods**. It is also compatible with complementary ingredients such as **nootropics, adaptogens** and **probiotics**, allowing for innovative combination formulations tailored to specific health needs.



SUGGESTED COMBO FEATURING


Athlevo Boost™

Combo: Physta® + Beta-Alanine +
Cordyceps + Vit B12

-  Sports performance & recovery
-  enhances physical endurance, oxygen uptake, and muscle recovery
-  Cordyceps improves ATP production, while B12 supports energy metabolism



ATHLEVO
BOOST™
with Physta® Tongkat Ali

SUGGESTED COMBO FEATURING
Physta®

TestoPrime Edge™

Combo: Physta® + Zinc + Magnesium + Fenugreek Extract

-  Men's daily vitality support
-  Natural essentials for testosterone levels, libido and vitality
-  Fenugreek complements the androgenic support of Physta®, zinc and magnesium are essential cofactors for hormone production



SUGGESTED COMBO FEATURING
Physta®

ManDrive Intense™

Combo: Physta® or Eureka™ + Tribulus Terrestris + Maca + Selenium

-  Natural libido and reproductive support
-  Enhances male performance, desire and sperm health
-  A classic men's sexual wellness stack with energy, circulation and endocrine-supportive herbs



SUGGESTED COMBO FEATURING
Physta®

Serenity Drive™

Combo: Physta®, Ashwagandha, L-Theanine, Rhodiola

-  Mental wellness and stress support
-  adaptogen blend to help balance cortisol levels, reduce anxiety and improve resilience to stress
-  Physta® Tongkat Ali and Ashwagandha work synergistically on mood and hormonal modulation



SUGGESTED COMBO FEATURING
Physta®

NeuroFuel Synergy™

Combo: Physta® + Bacopa + Citicoline + BioKesum®

-  nootropic stack for daily productivity and cognitive health
-  Targets mental stamina, focus and memory. Tongkat Ali supports sustained energy and stress regulation
-  BioKesum®, Bacopa and Citicoline improve neuroplasticity and memory




SUGGESTED COMBO FEATURING
Physta®

RestMax Restore™

Combo: Physta® + Magnesium Glycinate + Tart Cherry + GABA

-  Sleep aid for active lifestyles
-  Combines Physta®'s mood-regulating and cortisol-lowering effects with natural sleep aids
-  Tart cherry supports melatonin production while magnesium and GABA calm the nervous system



SUGGESTED COMBO FEATURING
Physta®

ImmuneSync Adapt™

Combo: Physta® + Probiotic Blend (L. rhamnosus, B. longum) + Astragalus + Zinc

-  Immune support for stressed individuals
-  Immune modulation and emotional resilience through Physta® Tongkat Ali
-  Probiotics and Astragalus support mucosal immunity and microbial diversity



SUGGESTED COMBO FEATURING
Physta®

SheVital Balance™

Combo: Physta® + SLP+® (or Nu-Femme®) + B-complex + Schisandra

-  Energy Support for Midlife Women (perimenopausal support)
-  Combines hormonal balance support with energy and stress resilience
-  Tailored for active midlife women seeking sustained energy without overstimulation




Conclusion of this whitepaper

Physta® represents the gold standard in Tongkat Ali extracts, delivering clinically proven benefits for energy, vitality and holistic wellness. Brand owners and formulators seeking a premium, science-backed ingredient can leverage Physta® to enhance their product offerings and establish a competitive edge in the market.



ADOPT-AN-HERB
HerbMedPro™ PROGRAM



**Sustainable
Herbs
Program**



References and Clinical Studies

A comprehensive list of 20 clinical studies supporting Physta® Tongkat Ali Standardized Extract benefits are available, reinforcing the credibility and research-driven foundation of this exceptional herbal extract. Please contact us for more info at:

marketing@biotropicsmalaysia.com

Performance Ingredient by

