

CLINICAL TRIALS - TESTOSTERONE

No	Indication	Reference	Population	Study Design	Sample size	Dose & Duration	Test markers	Main Findings
1	Testosterone, men's health	Tambi et al., 2005	Men (38-58 yo)	R, DB, PC	N=20	200 mg, 400 mg or 600 mg/day Physta® (3 weeks)	Quality of life & sexual health surveys, total & free testosterone, hormone profiles, lipid profiles, renal profiles, blood test	 Safe in doses up to 600 mg/day. Increased sexual health scores. Increased testosterone levels after 3 weeks. Blood profiles, liver function and renal function normal at all doses. Type-2 diabetic volunteers showed improved blood glucose levels.
2	Testosterone, strength & endurance in men	Talbott et al., 2007	Male athletes at mountain biking event	R, DB, PC	N=30	100 mg Physta® prior to exercise	Cortisol & testosterone profiles.	 Promotion of "anabolic" hormonal state during intense exercise, improving performance and reducing fatigue. Testosterone 16% higher than placebo. Cortisol levels 32% lower than placebo.
3	Testosterone, men's health	Tambi, 2009	Меп (31-52 уо)	OL	N=30	200 mg/day Physta® (3 weeks)	Total & free testosterone, hormone profiles, quality of life & sexual health surveys.	 Improvement of men's health via: 44% increase in free testosterone. 47% increase in DHEA-precursors of testosterone. 73% subjects had increased energy. 82% subjects had improved psychological wellbeing. 62% of subjects had increased libido.
4	Testosterone	Tambi et al., 2011	Men with late onset hypogonadism (28-70 yo)	OL	N=76	200 mg/day Physta® (4 weeks)	Testosterone levels, aging male symptoms survey.	 Effective in overcoming late onset hypogonadism. Subjects with aging male symptom complaints decreased: 70% to 10%. Subjects with normal testosterone levels increased: 35% to 91%.
5	Stress, testosterone	Talbott et al., 2013	Moderately stressed	R, DB, PC	N=63	200 mg/day Physta® (4 weeks)	Hormone profile, mood profile surveys, liver function, weight, body fat percentage.	 Decrease in tension (-11%), anger (-12%) and confusion (-15%). Improvement of stress hormone profile: testosterone levels higher (37%) and cortisol levels lower (-16%) than placebo.
6	Testosterone, strength	Henkel et al., 2013	Elderly (57-72 yo)	OL	N=25	400 mg/day Physta® (5 weeks)	Muscular strength tests, total & free testosterone, hormone profiles, aging male/female surveys, blood tests, renal function, liver function.	 Ergogenic benefit for seniors through muscle strength. Significant increase in total & free testosterone in both men & women. Significant increase in muscular force in both men & women. Safe for 400mg dose for 5 weeks.
7	Testosterone, men's health	Udani et al., 2014	Middle-aged men with mild ED (45-60 yo)	R, DB, PC, P	N=26	200mg Physta® + 100mg P.minus /day (12 weeks	Sexual health surveys, total & free testosterone, blood tests, renal function, liver function.	 Improved quality of life scores. Improved sexual health after 12 weeks. Improving trends in total testosterone. Safety profiles comparable to placebo.



PRECLINICAL TRIALS - TESTOSTERONE

No	Indication	Reference	Main Findings
1	Bone health, testosterone	Shuid et al., 2012	 Maintained bone calcium level in androgen-deficient osteoporotic model. Mechanism is related to Physta causing increase in testosterone, reduction of bone resorption marker, and upregulation of osteoprogerin (cytokine receptor related to bone formation).
2	Bone health, testosterone	Abdul Razak et al., 2012	 Combination therapy of Physta with low-dose testosterone is useful for treatment of androgen- deficient osteoporosis. Avoids side effects of regular dose testosterone therapy.
3	Bone health, testosterone	Solomon et al., 2012	 Safe for treatment of fertility and ageing male problems. Increased testosterone. Increased muscle mass. Increase of sperm concentration, total and progressive motility, and vitality.



CLINICAL TRIALS - WOMEN

No	Indication	Reference	Population	Study Design	Sample size	Dose & Duration	Test markers	Main Findings
1	Strength in women	Md. Yusof, 2009	Middle-aged women (45-59 yo)	R, DB, PC	N=31	100 mg/day Physta® (12 weeks)	Physical fitness tests, muscle size ultrasound.	 Counteraction of age-related decline in physical functions. After 12 weeks of exercise: significant improvement in physical strength, balance and flexibility compared to placebo.
2	Menopause management	Chinnappan et al., 2020	Middle-aged women (40-55 yo)	R, DB, PC, P	N=119	200 mg SLP+® and 50 mg Physta®/day (24 weeks)	Vital signs, anthropometric measures, blood tests, lipid and hormone profiles, urine tests, physical tests and quality of life surveys.	 Significant alleviation of hot flush symptoms in women with high hot flush score. (15% improvement over placebo.) Supplementation improves hot flush symptoms by 65% after 12 weeks and by 73% after 24 weeks (from week 0). 68% improvement in joint pain symptoms after 12 weeks. 21% increase in vitality after 24 weeks. Improvement in hormone and lipid profile.

PRECLINICAL TRIALS - WOMEN

No Indication Reference Main Findings	
1 Bone health, female Chinnappan • Benefits for the management of reproductive hormone ar hormones et al., 2020 • Can be used to address hormone imbalance, and symptor • Decrease in serum FSH (follicle-stimulating hormone). • Decrease in luteinising hormone.	nd bone markers. ns associated with menopause.

- Significant increase in progesterone compared to placebo.
- Significant increase in estrogen compared to placebo.



CLINICAL TRIALS - MEN

No	Indication	Reference	Population	Study Design	Sample size	Dose & Duration	Test markers	Main Findings
1	Strength in men	Hamzah et al., 2002	Healthy men (27-30 yo)	R, DB, PC	N=13	50 mg/day Physta® (5 weeks)	Physical fitness tests, body circumference measurements.	Anabolic effect after intense strength training program of 5 weeks:Increase in muscle circumference.Increase in strength.
2	Strength in men	Hamzah et al., 2003	Healthy men	R, DB, PC, P	N=14	100 mg/day Physta® (5 weeks)	Physical fitness tests, body fat percentage.	 After intense strength training program over 5 weeks, an ergogenic effect was observed: Improvement of lean body mass (4%) and increased muscle size (1.8cm) while placebo had no significant difference. Reduced body fat (9%) compared to placebo (7%); increase in strength (6%) compared to placebo (2%).
3	Testosterone, men's health	Tambi et al., 2005	Меп (38-58 уо)	R, DB, PC	N=20	200 mg, 400 mg or 600 mg/day Physta® (3 weeks)	Quality of life & sexual health surveys, total & free testosterone, hormone profiles, lipid profiles, renal profiles, blood test	 Safe in doses up to 600 mg/day. Increased sexual health scores. Increased testosterone levels after 3 weeks. Blood profiles, liver function and renal function normal at all doses. Type-2 diabetic volunteers showed improved blood glucose levels.
4	Testosterone, strength & endurance in men	Talbott et al., 2007	Male athletes at mountain biking event	R, DB, PC	N=30	100 mg Physta® prior to exercise	Cortisol & testosterone profiles.	 Promotion of "anabolic" hormonal state during intense exercise, improving performance and reducing fatigue. Testosterone 16% higher than placebo. Cortisol levels 32% lower than placebo.
5	Testosterone, men's health	Tambi, 2009	Men (31-52 yo)	OL	N=30	200 mg/day Physta® (3 weeks)	Total & free testosterone, hormone profiles, quality of life & sexual health surveys.	 Improvement of men's health via: 44% increase in free testosterone. 47% increase in DHEA-precursors of testosterone. 73% subjects had increased energy. 82% subjects had improved psychological wellbeing. 62% of subjects had increased libido.
6	Fertility in men	Tambi et al., 2010	Men with idiopathic infertility of 5 years	OL	N=75	200 mg/day Physta® (3 months)	Seminal fluid analysis.	 Reduces symptoms of idiopathic fertility. Improvement in sperm concentration, motility and morphology. 11 spontaneous pregnancies during study (14% of subjects).
7	Men's health, strength & fertility in men	lsmail et al., 2014	Men (30-55 yo)	R, DB, PC, P	N=26	300 mg/day Physta® (12 weeks)	Quality of life & sexual health surveys, seminal fluid analysis, physical fitness tests, body fat percentage, blood tests, renal function, liver function.	 Improved quality of life scores. Improving trends in strength, general health & vitality, and reduced body pain. Improved sexual health scores. Libido increased 11% (week 6) and 14% (week 12). 44% increase of sperm motility, 18% increase in semen volume. For subjects with BMI >25kg/m², significant improvement in fat mass loss. Safe at 300mg/day dose for three months.
8	Non-doping effect & strength in men	George et al., 2013	Men (30-55 γο)	R, DB, PC, P	N=40	300mg/day Physta® (12 weeks)	Testosterone & epitestosterone tests, physical fitness tests.	 No 'doping-like' effects observed. Testosterone:Epitestosterone (T:E) ratio did not change significantly over 12 weeks. No significant difference of T:E ratio between supplementation and placebo. Muscular strength over time increased more than placebo.
9	Testosterone, men's health	Udani et al., 2014	Middle-aged men with mild ED (45-60 yo)	R, DB, PC, P	N=26	200mg Physta® + 100mg P.minus /day (12 weeks	Sexual health surveys, total & free testosterone, blood tests, renal function, liver function.	 Improved quality of life scores. Improved sexual health after 12 weeks. Improving trends in total testosterone. Safety profiles comparable to placebo.
10	Non-doping effect in men	Chen et al., 2014	Men (24-34 yo)	DB, PC, C	N=13	400mg/day Physta® (6 weeks + 3 weeks washout + 6 weeks crossover)	Blood tests, urinalysis, testosterone & epitestosterone tests, renal function, liver function.	 No 'doping-like' effects observed. Testosterone:Epitestosterone ratio did not change significantly after 6 weeks. No significant difference of ratio between supplementation and placebo. Safety profiles comparable to placebo.



CLINICAL TRIALS - IMMUNITY & STRESS

No	Indication	Reference	Population	Study Design	Sample size	Dose & Duration	Test markers	Main Findings
1	Immunity	George et al., 2016	Middle-aged (40-59 уо)	R, DB, PC, P	N=83	200 mg/day Physta® (4 weeks)	Immunological parameters, quality of life & mood profile surveys, urinalysis, physical & biomedical examinations, blood tests.	 Significant alleviation of hot flush symptoms in women with high hot flush score. (15% improvement over placebo.) Supplementation improves hot flush symptoms by 65% after 12 weeks and by 73% after 24 weeks (from week 0). 68% improvement in joint pain symptoms after 12 weeks. 21% increase in vitality after 24 weeks. Improvement in hormone and lipid profile.
2	Stress	George et al., 2018	Moderately stressed (25-65 yo)	R, DB, PC, P	N=93	50 mg/day Physta® + multivitamins (24 weeks)	Quality of life surveys, cortisol levels, blood tests, heart rate & blood pressure, lipid panel, total & free testosterone tests.	 Improved quality of life scores. Improved emotional health & energy scores. Increased vigour after 12 weeks. Significant increase in lymphocytes (immunity effect). 15% decrease in stress; placebo was at 0.7% decrease.



PRECLINICAL TRIALS

No	Indication	Reference	Main Findings
1	Bone health	Shuid et al., 2010	 Maintained bone calcium level in androgen-deficient osteoporotic model. Had same effect as testosterone replacements in managing bone calcium levels
2	Blood glucose	lmam et al., 2017	 Increases insulin production from pancreatic cells. Increases uptake of glucose into cells (including muscle), which reduces glucose in blood serum and makes it available for energy. In the presence of insulin, glucose uptake was increased further.
3	Antiviral, dengue	George et al., 2019	 Physta has anti-viral and especially anti-dengue properties. Platelet count improved by 12%. Viral load lowered by 30%. Reduced weight loss and higher health score overall.
4	Safety (kidneys)	Chinnapan et al., 2019	 Provides protection to kidneys against paracetamol-induced toxicity. Increases serum total protein and serum albumin. Decreases blood urea and serum creatinine.