Turn Back the Clock, Turn Back the Wheel...

If you look at successful natural ingredients – those that have a long history of use and that also have modern sophisticated clinical research – they serve as hubs of a wheel, and their uses as shown by the science are the spokes.

Take LJ100® Tongkat Ali (TA), also known as Eurycoma longifolia. This botanical is a sturdy hub with many actions springing forth allowing for a complete circle of fluid movement.

Turn back the clock, turn back the wheel with LJ100®, the world’s best adaptogen.
LJ100® – The Hub

LJ100® is the result of an innovative collaboration between the esteemed MIT and the Government of Malaysia. The latter has invested considerable funds and efforts to license, develop and sustain research into the potential benefits of Tongkat Ali through a variety of governmental organizations, various universities, the Ministry of Science, the Malaysian Sovereign Wealth Fund and the Forest Research Institute of Malaysia.

The patent (dated November 7, 2006, number 7,132,117 [US] and WO 02/17946 A1 [worldwide]) is for the “Bioactive Eurypeptides isolated in Tongkat Ali that are proven to be the active compounds effective for treatment of sexual dysfunction, male infertility, and increased testosterone.”

The patent describes 16 claims ranging from composition and how such aqueous extracts of Tongkat Ali positively increase androgen biosynthesis and influence reproductive capabilities in men.
What Is Tongkat Ali?

Malaysia has a rich source of rainforests that contain thousands of plants with potential medicinal values. One such plant is the tall shrub tree from the Simaroubaceae family, Eurycoma longifolia, which is commonly found in the lush rain forests of Malaysia. The local name of the shrub is Tongkat Ali, which translates to “Ali’s Walking Stick,” a rather suggestive reflection of its traditional function and that is to provide virility for aging males.

Tongkat Ali’s medicinal elements are contained in the roots, a large, elaborate and visually stunning network that resembles wood. The roots of Tongkat Ali were used as a decoction by the natives of old Malaya, especially the elderly, for strength and energy, as well as to boost libido and sexual virility in aging men. Modern phytochemistry has further clarified that the roots contain eurypeptides, a 30–39 amino-acid chain, and a 4,300 dalton molecular weight.

In general, condition-specific product applications for LJ100® include: supports libido and sexual function, supports physical and mental energy, supports hormonal balance (notably cortisol/testosterone ratios), enhances sports performance, enhances healthy weight management/fat loss, and increases free testosterone as a safe alternative to testosterone replacement therapy.

Recent clinical studies have shown additional benefits, immune sustenance, healthy inflammatory management, healthy bone remodeling, and healthy blood sugar balance.
**About LJ100®**

**LJ100®** is made from wild-crafted Tongkat Ali root from the rainforests of Malaysia utilizing sustainable harvesting and fair-trade practices. **LJ100®** is produced using a patented extraction technology with high temperature, high pressure and ultra-filtration, and is standardized to 40% glyco saponins and >22% eurypeptides; Tongkat Ali roots from elsewhere likely do not contain these phytochemicals to those percentages.

In its raw form, Tongkat Ali by itself has a distinctively bitter taste. This characteristic is a result of its standardized hot-water extraction process, which allows for the retention of quassinoids, one of the bitterest phytochemicals in nature that also have applications in promoting human health. Tongkat Ali extracts that do not taste bitter are either not authentic Tongkat Ali root (there are many commercial examples of “fake” Tongkat Ali extracts) or are sub-potent in terms of bioactive constituents, and thus will be expected to have low efficacy.

Numerous commercial Tongkat Ali ingredients claim “extract ratios” from 20:1 to 400:1 without any information about bioactive constituents, extraction methodology (e.g., ethanol versus water) or extract purity. Alcohol extraction of Eurycoma longifolia has been studied in mice for antimalarial effects of concentrated eurycomalactone, which has highly toxic effects at high doses and would preclude safe use in humans as a long-term dietary supplement. Further, alcohol extraction leaves ratios and profiles that do not quite measure up to the exacting standardizations of **LJ100®**—its hot-water root extract standardized for known bioactive compounds (0.8% eurycomanone, 22% eurypeptides, 30% polysaccharides, 40% glyco saponins) have been demonstrated to be extremely safe at high doses for long-term consumption. Further, **LJ100®** is completely safe for men and women.

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**15 Benefits of LJ100®**

**LJ100®** is the only Tongkat Ali ingredient that has the following clinically proven benefits:

- Enhances sexual function and increases libido
- Maintains normal high free testosterone levels
- Inhibits sex hormone binding globulin
- Reduces cortisol, the stress hormone
- Improves various mood profiles
- Prevents dieters from binge eating to achieve successful weight loss
- Promotes anabolic state and reduces catabolic state
- Reduces fatigue and tension
- Improves endurance and stamina for athletes of all ages
- Natural alternatives to testosterone replacement therapy
- Promotes overall well-being and hormonal health
- Supports healthy blood sugar
- Supports healthy bone turnover
- Promotes immune function
- Manages healthy inflammation response
Promotes Sexual Virility

Men, who are otherwise healthy and who begin to have problems attaining a satisfactory and quickly produced erection, are frequently prescribed medications that treat the condition, erectile dysfunction. These popular medications are known as cGMP-specific phosphodiesterase type 5 (PDE5) inhibitors, which regulate blood flow to the penis, allowing it to grow into a healthy erection. These medications include tadalafil (Cialis*), sildenafil (Viagra*) and vardenafil.

Side effects for some moments of pleasure, however, can be severe at worst, and very discomforting at best. For example, according to drugs.com, the more common side effects of Cialis are “acid or sour stomach, belching, heartburn, indigestion and stomach discomfort.” Those who take Viagra may have common side effects such as diarrhea, flushing, headache, labored breathing and muscle pain/aches, among others.

But, it does not have to be that way. Men who begin to experience impotence and related sexual performance issues first need to consult with their physicians to discount atherosclerosis (which by its nature restricts blood flow to the penis), as well as other health conditions.

In a 2002 study presented at the First Asian Andrology Forum in Shanghai, China, 30 male patients in healthy relationships took either 100 mg of LJ100* or a placebo for three weeks; during this time, they filled out the Sexual Health Inventory Questionnaire (SHIQ). At the end of the study, the SHIQ showed a 62% increase in scores, demonstrating increased sexual desire and sexual attempts.

In a randomized, double-blind, placebo-controlled, parallel group study, 109 healthy men aged 30 to 55 took either 300 mg of LJ100* or a placebo for 12 weeks. At the study’s end, researchers found that the LJ100* group had had significant improvement in Quality of Life score.

The SF-36 Questionnaire is showing significant improvement in Physical Function & Vitality Domain. The International Index of Erectile Function (IIEF) score also showed significant improvement in sexual satisfaction and erectile function. In addition, libido is significantly increased by 14%, and SHBG was significantly lower in the LJ100* group.

And then, adding LJ100* daily should help dramatically!
The benefits of maintaining or restoring youthful testosterone levels provide an upward spiral.

The more lean mass is gained, fat is lost through the ability to exercise at higher levels. This results in a healthier muscle-to-fat ratio, which allows for lowered blood pressure, favorable cholesterol and triglyceride levels, healthier insulin/blood sugar levels, more energy, and increased health and well-being.

**The Influence of Testosterone**

- **Skin**
  - Hair Growth, Balding, Sebum Production

- **Liver**
  - Synthesis of Serum Proteins

- **Male Sexual Organs**
  - Penile Growth
  - Spermatogenesis
  - Prostate Growth & Function

- **Brain**
  - Libido, Aggression

- **Muscle**
  - Increase in Strength and Volume

- **Kidney**
  - Stimulation of Erythropoietin Production

- **Bone Marrow**
  - Stimulation of Stem Cells

- **Bone**
  - Accelerated Linear Growth
  - Closure of Epiphyses

A three-week study of 30 men aged 31–52, who took either a placebo or 100 mg of **LJ100®**, showed a 91% improvement in physical component, 82% improvement in psychological component and 50% improvement in vasomotor score.5

Partial Androgen Deficiency In Aging Men (PADAM) scores improved by 82%, suggesting physical, vasomotor, psychological and sexual wellbeing. DHEA increased from 26% to 47%, and Sex Hormone Binding Globulin (SHBG) decreased 30% in subjects. Consequently, free testosterone levels increased from 39% to 73% in the **LJ100®** group.5
**Spoke 1: Free Testosterone**

Some hormones have one or two actions or responsibilities. But testosterone has many, and when testosterone (free testosterone or FT) is being produced at healthy levels, men (and women) feel energized and sleep better. They have easier times maintaining lean body mass and lowered fat, normal mood ranges, and enjoy the romantic spontaneity from an energized libido.

Conversely, aging lowers the body’s ability to continue to produce free testosterone at the rapid clip it did in the late teens and 20s. And as such, the belly fat creeps in, the muscles lose strength and density, and essentially the “get up and go,” as Aerosmith famously sang, “got up and went.”

When we are energized in all senses, we can feel physically fit and enjoy mental acuity and even mood. We delight in a healthy sex life. And we feel good. Consider all those benefits as the spokes in a wheel – and testosterone is the hub from which the spokes spring.

Researchers Tambi and Saad (2005), asserted, “Testosterone stimulates metabolism, which promotes fat burning, and accelerates muscle growth. Testosterone helps to build protein and is essential for normal sexual behavior and producing erections.

It also affects many metabolic activities such as production of blood cells in the bone marrow, bone formation, lipid metabolism, carbohydrate metabolism, liver function and prostate gland growth.”

One study of significance (published in three journals, 2005, 2006 and 2007) focused on the outcomes of a proprietary and patented Tongkat Ali extract, **LJ100®**, on various parameters in 20 male volunteers with varied health conditions and aged between 38 and 58.3,4. The volunteers were randomly given either a placebo or **LJ100®** in doses of 200, 400 or 600 mg for two months.

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**The Study Yielded The Following Compelling Data Points:**

- **The majority of volunteers showed improvement in Sexual Health Inventory for Men, improvement in sexual desires and performance.**
- **Aging Males’ Scores improved in the LJ100® group compared to placebo, showing improvement in sexual, physical, psychology and vasomotor domain.**
- **Testosterone and DHEA levels were high normal levels when compared to baseline.**
- **HDL cholesterol improved.**
- **Volunteers who had type-2 diabetes showed improvement in blood glucose levels.**
- **The LJ100® group had high normal levels of insulin-like growth factors (IGF-1); lower levels of IGF-1 are correlated with higher body fat.**
- **The majority of volunteers on LJ100® had high normal level of thyroxin compared to placebo, meaning higher metabolism rate.**
- **Profiles of vital body functions: blood profile, lipid profile (including triglycerides and cholesterol), liver function, renal function, electrolytes, various tumor markers including PSA (which when in high numbers potentially signify benign prostatic hyperplasia or enlarged prostate, or even presence of prostate cancer) were all within normal range.**
Effect of LJ100® on Clinical and Biochemical Parameters Before (Baseline), After 3 Weeks, and at the End (5 Weeks) of the Treatment

**MEN**

<table>
<thead>
<tr>
<th>Variable (n=13)</th>
<th>Baseline</th>
<th>3 weeks</th>
<th>5 weeks</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood urea nitrogen (mmol/L)</td>
<td>14.98±4.28</td>
<td>16.50±3.43</td>
<td>18.96±3.13</td>
<td>+26.6%</td>
</tr>
<tr>
<td>Creatine kinase (L/L)</td>
<td>201.7±166.71</td>
<td>112.6±36.24</td>
<td>114.1±60.52</td>
<td>-30.0%</td>
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<tr>
<td>Total testosterone (ng/mL)</td>
<td>3.84±0.79</td>
<td>4.09±1.02</td>
<td>4.42±1.15</td>
<td>+15.1%</td>
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<tr>
<td>Free testosterone (pg/mL)</td>
<td>5.20±1.60</td>
<td>5.99±1.62</td>
<td>8.38±2.18</td>
<td>+61.1%</td>
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<tr>
<td>Handgrip test (kg)</td>
<td>46.03±11.30</td>
<td>55.27±11.00</td>
<td>53.67±9.86</td>
<td>+16.6%</td>
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</table>

**Women**

<table>
<thead>
<tr>
<th>Variable (n=13)</th>
<th>Baseline</th>
<th>3 weeks</th>
<th>5 weeks</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatine kinase (L/L)</td>
<td>125.7±73.78</td>
<td>103.9±45.05</td>
<td>81.5±31.14</td>
<td>-35.2%</td>
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<tr>
<td>Total testosterone (ng/mL)</td>
<td>0.35±0.17</td>
<td>0.44±0.19</td>
<td>0.52±0.30</td>
<td>+48.6%</td>
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<tr>
<td>Free testosterone (pg/mL)</td>
<td>0.50±0.24</td>
<td>0.66±0.38</td>
<td>1.11±0.66</td>
<td>+122.0%</td>
</tr>
<tr>
<td>SHBG (nmol/L)</td>
<td>59.66±17.18</td>
<td>50.39±15.85</td>
<td>47.26±16.65</td>
<td>-20.8%</td>
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<tr>
<td>Handgrip test (kg)</td>
<td>29.61±7.28</td>
<td>36.87±8.03</td>
<td>33.67±8.38</td>
<td>+13.7%</td>
</tr>
</tbody>
</table>

LJ100® significantly increases total testosterone (15.1% in men, 48.6% in women), free testosterone (61.1% in men, 122% in women), & muscular force in senior men & women. Muscles were not being damaged by the exercise, as evidenced by the drop in Creatine Kinase enzyme levels.
Spoke 4: Andropause – Men’s Change of Life

“Andropause,” often called “male menopause,” is not a marketing term or a buzzword. It is a highly accurate description of a condition marked and exacerbated by a slow but steady decline in endogenous testosterone production. Low testosterone levels give rise to several quality of life issues: fatigue, reduced muscle bulk/strength, low mood/depression, fewer spontaneous erections, loss of libido, decreased ability to concentrate and increased body fat, to name a few.

The difference between andropause and menopause is that the former is characterized by gradual declines in hormone levels, while in women, hormone levels drop suddenly. Healthy men will usually experience a 1% drop in testosterone every year starting around age 40. Young men typically have testosterone levels of approximately 1,000 ng/dl, while the average level for an 80-year-old man is about 200 ng/dl.

Referring back to the testosterone saliva test in the previous chapter, the starting ng/dl levels of men in various age brackets are about normal. The oldest volunteer, age 52, achieved a 70% increase in testosterone after LI100® consumption, peaking at 765 ng/dl at the study’s conclusion.11

Researchers George and Henkel explain in their research paper, “Testosterone deficiency syndrome (TDS) is characterized by numerous symptoms, including low libido, increased fat mass, fatigue, erectile dysfunction or osteoporosis, and up to 80% of men will experience some aging males’ symptoms. This is caused by the age-depending decline in serum testosterone levels with concentrations being about 40–50% lower in men older than 60 years compared with young men.

This significant decline in testosterone levels is further closely linked with medical conditions such as obesity, metabolic syndrome, diabetes or hypertension. The conventional way of treating TDS is testosterone replacement therapy (TRT), for which preparations are on the market. Apart from the beneficial effects of TRT, significant adverse side effects have been described, and prostate cancer (PCa) as absolute contraindication is debated.”16

They add that LI100® is a “natural alternative to TRT and has been shown to restore serum testosterone levels, thus significantly improving sexual health. This includes significant positive effects on bone health and physical condition of patients.

In addition, a significant antihyperglycemic effect and cytotoxicity against PCa cells has been shown. Thus far, at therapeutic concentrations, no significant side effects of the treatment were obvious. Therefore, TA might be a safe alternative to TRT.”
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