

**KSM-66 is from the world's ashwagandha experts.  
Ashwagandha is the only thing we do.**

## **KSM-66's Clinically Proven Benefits:**

**Stress Relief**

**Memory and Cognition**

**Muscle Strength**

**Endurance**

**Sleep**

**Sexual Health**

**Male Testosterone**

**Weight Management**

**Thyroid Health**

**[www.ashwagandhaadvantage.com](http://www.ashwagandhaadvantage.com)**

**Ashwagandha Advantage** is a website sponsored by KSM-66 and is brought to you by SupplySide. It is an informative new resource featuring premium reports, infographics, blogs and videos. Designed to deliver information on the powerful Indian adaptogenic botanical, the content site highlights clinical study results, formulation guidance, sourcing information and more.

## What is Ashwagandha?

Ashwagandha (*Withania somnifera* Dunal) is the flagship herb of Ayurveda, the traditional system of medicine from India. This herb has been known for centuries but is only now experiencing major growth worldwide because of a burst of recent studies in pharmacology and medicine. Ashwagandha promotes balance in the body. It is an adaptogenic herb that helps the body successfully adapt to stressful conditions. Ashwagandha is one of the few herbs with significant effects on both psychological and physiological aspects of human functioning.

Both in independent clinical trials and in thousands of years of traditional use, the root is the part of the plant that is used predominantly, and not the aerials parts like the leaves. The use of the roots is on far better scientific foundation in terms of human clinical evidence and period of observation than the use of leaves. Experts argue for the use of the root only versus the leaves. Consistent with this, the canonical definition of ashwagandha in reference works like the pharmacopoeias is only on the root.

These reference works are the United States Pharmacopoeia, the British Pharmacopoeia, the Indian Pharmacopoeia, the Ayurvedic Pharmacopoeia, Indian Materia Medica, the Health Canada monograph and the W.H.O. monograph. The leaf is in fact not even mentioned in any of them for therapeutic use. These reference works reflect the fact that expert consensus favors the root over the leaves.



## KSM-66® Ashwagandha

KSM-66 Ashwagandha is a branded, full-spectrum extract, with the highest concentration of all major root-only extracts available on the market today. It is produced using a unique proprietary extraction process, based on “Green Chemistry” principles, without using alcohol or any other chemical solvent.

KSM-66 Ashwagandha has been clinically proven to:

- Help reduce stress, anxiety, cortisol levels and stress-related food cravings\*
- Help promote enhanced memory and cognitive function\*
- Help promote endurance, strength, muscle size and muscle recovery rate\*
- Help enhance sexual performance health in both men and women, and testosterone in men\*

### Adaptogens: A rapidly growing botanical category

Ashwagandha is widely cited as the exemplar adaptogen. The term 'adaptogen' refers to a special class of herbs that help the body regulate many of its most critical processes and systems. These herbs help raise an individual's resistance to physiological and psychological stressors, thereby helping the individual to adapt to changes. Adaptogens are noted not only for protective, rejuvenative and restorative effects, but also for promoting resilience and strength. These are important benefits in this modern world which places increasing demands on us. It is not surprising, then, that the nutritional supplements industry has seen rapid growth recently in adaptogens, and ashwagandha in particular.

## Why KSM-66® Is The “World’s Best Ashwagandha”

### 1. KSM-66 has the most extensive set of research studies and clinical trials.

Ixoreal is the industry leader in clinical trials and basic research investigating the effectiveness of ashwagandha, with 24 studies: 10 published studies, 6 additional studies completed and in peer review and 8 ongoing studies. It collaborates with major academic and research institutes. All of Ixoreal-partnered clinical studies follow the gold standards of substantiation: randomized, double-blind, placebo-controlled designs.

For a herb to operate at a systemic level, it needs a complex blend of phytochemicals with a wide range of actions on the human body. Ashwagandha is one of the few herbs in the botanical world with a complex blend of this type. Our research studies focus on the main applications of ashwagandha as listed below:



**(i) Anxiety and Stress Relief:** A study in the *Indian Journal of Psychological Medicine* showed that KSM-66 treatment caused a significant reduction in serum cortisol levels, stress and anxiety, as measured by the Perceived Stress Scale, the GHQ-28 score and the Depression Anxiety Stress Scale.



**(ii) Stress, Weight-Management and General Well-Being:** A research paper in the *Journal of Evidence-Based Complementary and Alternative Medicine* showed that KSM-66 supplementation significantly lowers chronic stress (as measured by perceived stress and serum cortisol), food craving and stress-associated weight gain.



**(iii) Cognition and Memory:** An article in the *Journal of Dietary Supplements* showed that KSM-66 can significantly improve memory and cognitive functions (Wechsler Memory Scale scores), executive function, attention and information-processing speed in a healthy individual.



**(iv) Muscle Strength, Muscle Size, Muscle Recovery and Testosterone:** The *Journal of the International Society of Sports Nutrition*, the premier

research outlet in the area of sports nutrition, published a study where KSM-66 was found to be effective in healthy athletic adults in improving muscle strength, muscle size, body fat percentage and natural testosterone production. KSM-66 was also shown to increase muscle recovery rate.



**(v) Cardiorespiratory Endurance:** According to a study published in the journal *AYU*, KSM-66 supplementation can significantly improve cardio respiratory endurance ( $VO_2\text{max}$ ) and the quality of life (WHOQOL scale) in healthy athletes.



**(vi) Oxidative Stress and Respiratory Endurance:** A study showed that KSM-66 supplementation can significantly improve cardiorespiratory endurance ( $VO_2\text{max}$ ) and reduce oxidative stress (free radicals) and fatigue (REST-Q-Sport and TQR scales) in athletes.



**(vii) Sexual Function and Testosterone Levels in Men:** Research published in *Evidence-Based Complementary and Alternative Medicine* showed that KSM-66 yielded a significant increase in semen volume, sperm concentration and motility, serum LH and testosterone.





**(viii) Sexual Wellness in Men:** A study among healthy men showed that taking KSM-66 can significantly boost sexual wellness (Derogatis Interview for Sexual Functioning scores) and serum testosterone levels.



**(ix) Female Sexual Function:** A study published in *Biomed Research International* showed improvements in female sexual health as measured by some metrics commonly employed by gynecologists to assess desire, arousal, lubrication, satisfaction and orgasm.



**(x) Perimenopausal Symptoms:** A study showed that KSM-66 alleviates perimenopausal symptoms like hot flashes, menstrual frequency, pain, high blood pressure and weight gain in women by normalizing levels of estradiol, FSH, LH and other female sexual hormones.



**(xi) Thyroid function:** An article in the *Journal of Alternative and Complementary Medicine* showed that KSM-66 can normalize thyroid indices like serum TSH, T3 and T4 and restore normal functioning of the thyroid gland.



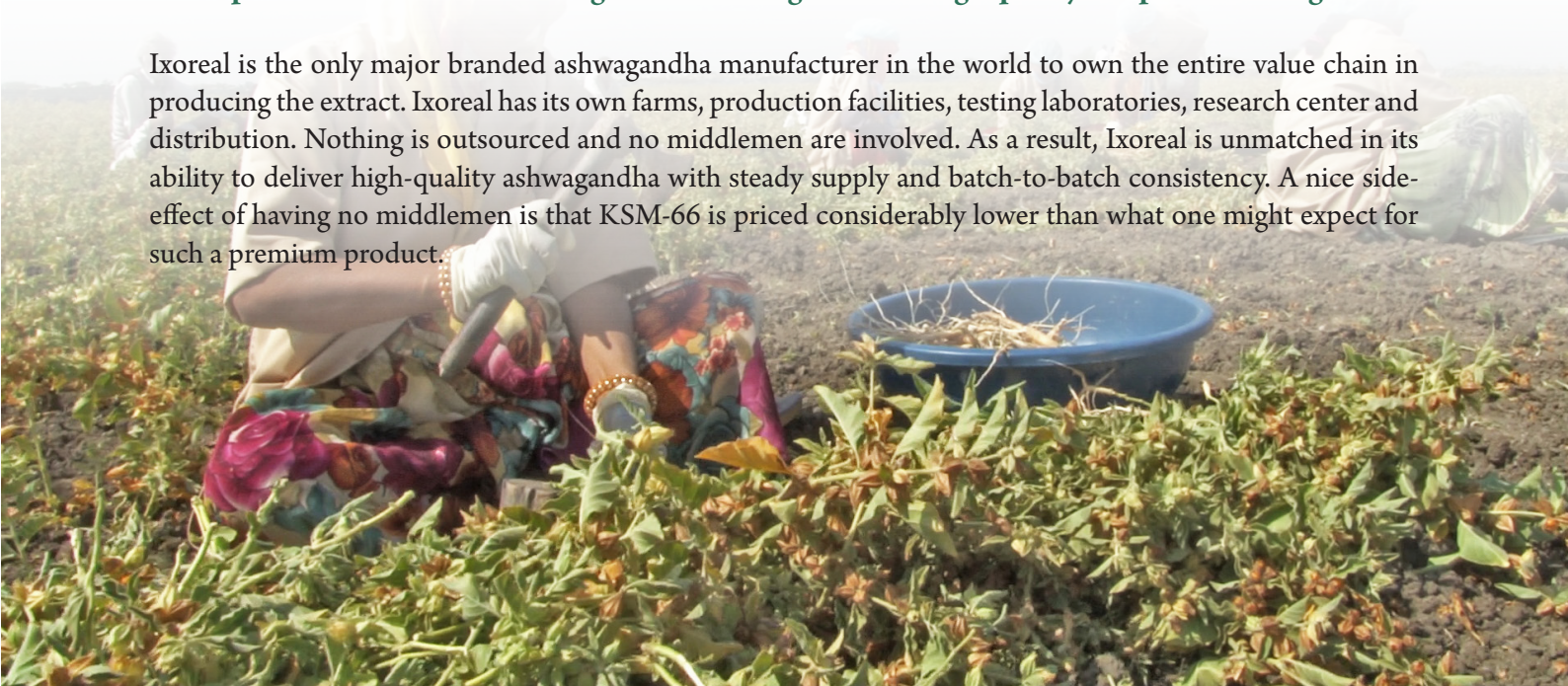
**(xii) Sleep Quality and Relaxation:** In a study on sleep-deprived individuals, KSM-66 improved sleep duration and quality, sleep efficiency and onset latency, measured through actigraphy, the Pittsburgh Sleep Quality Index and the Hamilton Anxiety Rating Scale.



**(xiii) General Health Improvement in Senior Citizens:** A study among older adults showed that KSM-66 significantly improved cognitive functioning, sleep quality, physical fitness and psycho-social well-being as measured by various psychometric questionnaires.

## 2. The production of KSM-66 has tight vertical integration for high quality and price advantage.

Ixoreal is the only major branded ashwagandha manufacturer in the world to own the entire value chain in producing the extract. Ixoreal has its own farms, production facilities, testing laboratories, research center and distribution. Nothing is outsourced and no middlemen are involved. As a result, Ixoreal is unmatched in its ability to deliver high-quality ashwagandha with steady supply and batch-to-batch consistency. A nice side-effect of having no middlemen is that KSM-66 is priced considerably lower than what one might expect for such a premium product.





### 3. KSM-66 has the highest concentration of all major root-only extracts available on the market.

A “full-spectrum” extract is an extract which maintains the balance of the various constituents as in the original herb, without over-representing any one constituent. The ashwagandha herb’s efficacy is believed to be derived from a complex blend of active constituents, mainly alkaloids like withanine, somniferine, tropine and steroidal lactones called withanolides. All these constituents need to be present approximately in their natural proportions, and hence it is important for an extract to be full-spectrum. Ixoreal managed to create a process that surmounts these challenges after many years of R&D. KSM-66 Ashwagandha is standardized to the highest percentage of withanolides >5% by HPLC, of all major root-only extracts available on the market today.

### 4. KSM-66 has exemplary standards in safety and quality.

The manufacturing unit of KSM-66 is pharma-grade, with state-of-the-art clean room facilities using world-class production and quality assurance processes. KSM-66 is the botanical with the highest number of certifications. KSM-66 and its manufacturing have gone through the most extensive inspections and safety assessments in our industry.





## Applications

### Dietary Supplements

KSM-66 Ashwagandha can be utilized as a stand-alone or as a complementary ingredient in herbal, phyto-pharmaceutical and dietary supplement formulations. KSM-66 Ashwagandha offers wide therapeutic benefits. KSM-66 Ashwagandha is free-flowing and shelf-stable and can easily be incorporated into capsules, tablets, soft-gels and liquids.



### Food & Beverages

KSM-66 is a self affirmed GRAS (Generally Regarded as Safe) ingredient, qualified by a reputed panel of toxicologists. Unlike some other extracts, KSM-66 has a neutral taste and is not bitter. Therefore, it is an excellent choice for use in foods and beverages. It blends well for nutritional bars, chocolates, bakery products, chewing gums, candies, functional waters, energy drinks, smoothies, gummies, yogurts, herbal teas, coffees, malted beverages, wine, soups, cereals, burgers, soft chews and cookies.



### Sports Nutrition

There is a fast growing use of ashwagandha for enhancing physical performance and cognitive acuity. KSM-66 is a very effective form of ashwagandha for athletes who train and compete at peak levels. It helps to enhance energy and endurance, improve muscle size and strength, assist muscle recovery, improve mental function, alertness and oxygen usage. KSM-66 has been used in pre- and post-workout formulas, nutrition bars, meal replacements, whey protein mixes, energy drinks and sports beverages.



## Awards for KSM-66

KSM-66 Ashwagandha won the “Best Botanical Ingredient” award for 2013 at Natural Products Expo West (USA), the world’s largest trade-show and conference on natural products. It was placed in the list of Top 10 Ingredients by the editors of “Functional Ingredients” magazine. KSM-66 also received the prestigious Frost & Sullivan 2014 “Product Innovation in Botanicals” award, the 2016 “Herbal Industry Leader” award by the Society for Ethnopharmacology and the 2012 “Innovative Ingredient of the Year” award at Panacea, South Asia’s premier show on natural products.



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