

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing, and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.

Periommune™ lozenges support oral and immune health in adults.\* This great-tasting formula combines the Immuno-LP20® strain of *Lactobacillus plantarum* and Wellmune®, a beta-glucan from the yeast organism, *Saccharomyces cerevisiae*, to support the body's immune response.\* These strains have been shown to be particularly beneficial for helping to support the nasopharyngeal, upper respiratory, dental, and oral health.\*

### Ingredient Highlights

- Features 250 mg of Wellmune® baker's yeast, beta-glucan (a proprietary strain of *S. cerevisiae*) to help support immune responses, including salivary immunoglobulin A\*
- Includes 50 mg of Immuno-LP20® *Lactobacillus plantarum* L-137 to help support T-helper 1/T-helper 2 (Th1/Th2) immune cell balance\*
- Pleasant-tasting, orange flavor
- Convenient lozenge delivery
- Gluten-free, dairy-free, and soy-free
- Non-GMO

**Immuno-LP20®** is heatkilled [HK] *Lactobacillus plantarum* L-137 (HK L-137) that is also referred to as an immunobiotic. It is derived from a strain of commensal bacteria found in fermented foods that has been shown to help support Th1/Th2 immune cell balance, which may help mitigate the effects of potential threats.\*<sup>1,2</sup> Immuno-LP20™ induces interleukin-12 (IL-12), which triggers a Th1 immune response.<sup>1,2</sup> HK L-137 is a more potent inducer of IL-12 compared to other HK *Lactobacillus* strains. This is likely due to the higher levels of lipoteichoic acid on its cell surface, allowing for greater phagocytosis by scavenger receptor A.<sup>3</sup> Studies have demonstrated that HK L-137 improved the response of concanavalin A-induced proliferation of peripheral blood mononuclear cells (PBMCs), which supports immune function.<sup>1,2,4</sup> It may also support a healthy inflammatory response.\*<sup>4</sup>

Periodontal disease is characterized by gum inflammation and loss of dental bone, often diagnosed by the number and depths of periodontal pockets, in conjunction with propensity for gum bleeding. HK L-137 has also been shown to help improve periodontal conditions in individuals with periodontal disease as an adjunct to supportive periodontal therapy (SPT).<sup>5</sup> In a randomized, double-blind, placebo-controlled trial, patients undergoing SPT were randomly assigned 10 mg of Immuno-LP20® (n = 19) or a placebo (n = 17) for 12 weeks and researchers assessed clinical parameters that included periodontal pocket depth, also known as probing depth (PD), and bleeding on gum probing (BOP). These parameters are common indicators of poor gum health as they can foster pathogenic organisms that can result in gum irritation, inflammation, and tooth decay.\* The SPT significantly reduced BOP and the number of teeth or sites with PDs ≥ 4 mm in both groups; while the experimental group that supplemented with HK L-137 experienced significantly greater PD reductions at teeth or sites with PDs ≥ 4 mm at baseline compared to the control group.<sup>5</sup> Although more research is needed to fully understand the mechanisms of action, the benefits of HK L-137 on periodontal health are hypothesized to be linked to its potential ability to help activate the mucosal and systemic immune system.\*

In a randomized controlled trial with 16 adults before and after the influenza vaccination, participants taking 10 mg of HK L-137 (equivalent to 25 mg of ImmunoLP®) for 8 weeks experienced significantly higher levels of interferon-beta, an early effector of innate immune responses that also regulate adaptive immunity by promoting Th1-type responses.<sup>6</sup> In a randomized, double-blind, placebo-controlled, parallel study of 60 healthy adults taking a supplement with 10 mg of heat-killed *Lactobacillus plantarum* strain L-137 daily for 12 weeks, the participants experienced beneficial effects of acquired immunity, especially Th1-related immune functions. This included sustained increases in the Th1/Th2 ratio and concanavalin A-induced proliferation of PBMCs and improved health-related quality of life.<sup>1</sup> A randomized, double-blind, placebo-controlled, parallel study on 78 healthy participants under high psychological stress found that those who supplemented with 10 mg of HK L-137 for 12 weeks experienced a significantly reduced incidence of URTIs compared to the control group. There was also a significant negative correlation with the duration of HK L-137 intake and URTI incidence, duration, and severity, and the duration of medication.<sup>2</sup>

### Benefits\*

- Supports oral mucosal health
- Promotes gum and dental health
- Supports a healthy immune system
- Promotes nasopharyngeal health
- Supports respiratory health

### Supplement Facts

Serving Size 2 lozenges	
Servings Per Container 30	
Amount Per Serving	% Daily Value
Baker's Yeast Beta Glucan (Wellmune®)(Proprietary strain of <i>Saccharomyces cerevisiae</i> )	250 mg *
<i>Lactobacillus plantarum</i> L-137 (Immuno-LP20®)	50 mg *
*Daily Value not established.	

**Other Ingredients:** Xylitol, mannitol, natural flavor and color, vegetable stearate, malic acid, luo-han-guo (fruit extract).

**Wellmune®** is a beta-glucan that is derived from the cell wall of a highly purified, proprietary strain of *Saccharomyces cerevisiae*.<sup>7</sup> Beta-glucans are complex polysaccharides found in plant-based foods, such as mushrooms, yeast, and oats, which have both metabolic and immunomodulatory properties. Beta-glucans help modulate and train the immune system by helping to expedite future responses.<sup>7,8</sup> Innate immune cells recognize beta-glucans as pathogen-associated molecular patterns (PAMPs) that can bind to different receptors, such as dectin-1 and toll-like receptors (TLRs). This recognition and binding helps control the immune response by modulating the release of pro- and anti-inflammatory cytokines, including lipopolysaccharide-induced nitric oxide, TNF- $\alpha$ , and IL-6. This supports the innate immune system's memory to be primed when facing potential threats, and it may help work more efficiently and effectively.<sup>7-9</sup>

Clinical studies have reviewed the potential for beta-glucans from baker's yeast (including Wellmune®) to support immune function and help modulate immune balance.<sup>\*10-13</sup> This includes reducing the duration of URTIs, reducing missed days in school or work due to URTIs, and improving quality of life.<sup>\*10-13</sup> In community-dwelling adults ages 50 to 70 years (n=98) were randomized to 250 mg Wellmune® per day or placebo for 90 days over the winter months. Twenty-eight URTIs were confirmed in the placebo group compared to 17 in the Wellmune® group. The Wellmune® group experienced fewer symptom days compared to placebo, but no between-group difference in severity was shown.<sup>12</sup> A systematic review and meta-analysis of 13 RCTs investigated the effects of yeast  $\beta$ -glucans on URTIs in healthy subjects and showed that the groups supplemented with yeast  $\beta$ -glucan had significantly reduced URTI incidence, duration, and improved symptom severity compared to placebo groups.<sup>13</sup>

Wellmune® may also support immune responses to some allergens.\* A randomized controlled trial with 50 adult participants found that the group supplemented with 250 mg of Wellmune® for 4 weeks experienced a reduction of allergy symptoms and severity during ragweed allergy season in self-reported sufferers who experienced benefits in overall physical health and emotional wellbeing compared to placebo.<sup>14</sup>

Stress and intense physical activity can affect the body's ability to mount robust immune responses.\* A study on healthy women with moderate levels of psychological stress found that the group taking 250 mg of Wellmune® for 12 weeks reported fewer URTI symptoms and better overall wellbeing and mental and physical energy levels compared to a placebo.<sup>15</sup> In clinical studies, groups supplementing with baker's yeast experienced significantly altered total and classic monocyte concentration and the expression of cytokines, including interleukin (IL)-2, IL-4, IL-5, and interferon-gamma, modulating the expected exercise response in the immune system and helping to reduce susceptibility to infections.<sup>16,17</sup> The treatment group also experienced a 32% increase in salivary immunoglobulin A (the first line of immune defense in the mouth and GI tract) at 2 hours post-exercise compared to a placebo.<sup>18</sup> Clinical studies have found that groups taking Wellmune® before and after running a marathon experienced fewer URTI symptomatic days, reduced severity, fewer missed post-marathon workout days due to URTIs, and significantly lower nasal discharge ratings compared to placebo groups.<sup>18-20</sup>

**Recommended Use:** Take 2 lozenges per day or as directed by your health-care practitioner. Allow lozenges to dissolve slowly and completely in mouth and swallow.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---periimmune-tech-sheet-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

**Immuno-LP20® is a registered trademark of House Foods Group, Inc.**  
**Wellmune® is a registered trademark of Kerry Group.**

**\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at [www.designsforhealth.com](http://www.designsforhealth.com).