Mobilising the body's first line of defence

WITH WELLMUNE®

ARTICLE BY
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Keeping informed on ingredients with clinical evidence to support immune system health has never been more important. One unique and naturally derived immunomodulator, Wellmune®, has demonstrated beneficial immune and health effects across multiple population groups.[1]

Researched benefits and actions of Wellmune®

Wellmune® has been well researched with numerous studies demonstrating its benefits in various populations including adults, older adults, children, athletes, and allergy sufferers.[1]

Wellmune® has been shown to:

- decrease the incidence and duration of the common cold
- reduce upper respiratory tract infection (URTI) symptoms and the number of symptomatic days
- enhance specific immune outcomes post-exercise
- reduce URTI occurrence and intensity in marathon runners, post-event
- improve mucosal immunity and increase salivary immunoglobulin A (IgA) concentration post strenuous exercise
- improve immunity, mood, and overall health in physically stressed adults, irrespective of their fitness level
- increase physical health, energy, and emotional wellbeing
- decrease total allergy symptoms and severity, including nasal, eye, and non-nasal symptoms.[1]

KEY HIGHLIGHTS

- Beta glucans are naturally occurring polysaccharides that provide the structure and energy of a plant cell.
- Beta glucans can be extracted from oats, mushrooms, and baker's yeasts, each with different properties.
- Wellmune® a yeast beta glucan derived from the cell wall of *Saccharomyces cerevisiae* has clinically proven effects in:
  - reducing the incidence and duration of upper respiratory tract infections
  - enhancing the immune response, improving immunity, physical health, and emotional wellbeing

What is Wellmune®?

Wellmune® is a beta glucan isolated from the cell wall of a proprietary strain of *Saccharomyces cerevisiae*, also known as baker's yeast.[1,2]

Beta glucans are naturally occurring polysaccharides that in nature, serve as energy and cell wall structural components for plants, algae, fungi, yeasts, seaweeds, bacteria, and cereals (rice, oat, barley). Commercially, beta glucans can be extracted from oats, mushrooms, and baker's yeast (*Saccharomyces cerevisiae*). However, each of these sources provides beta glucans with varying structures, molecular weight, and health effects. The source, structure, and extraction process of the beta glucan determines its biological activity.[1,2]

Wellmune®, the yeast beta glucan is highly refined with a branching polysaccharide chain (1-3/1-6) and a higher molecular weight than cereal beta glucans, like oats.[1,2]

Beta glucans with (1,3)/(1,6) glycosidic linkages are recognized by pattern recognition receptors (PRRs) and are thus involved in modulating immune functions, while a cereal based (1,4) glycosidic linkage containing beta glucan fails to mount immune responses and exerts its mechanism of action via modulating viscosity.[3]

Yeast and oats – what is the difference?

Oat-derived beta glucans, as dietary fibre, improve metabolic health by enhancing insulin response and regulating blood lipids.

Yeast-derived beta glucans, with high molecular weight and branching, modulate the immune system, specifically targeting the innate immune response.[1,2]

RESEARCH INSIGHT: Wellmune® for athletes

Studies in athletes at the doses of 250 mg or 500 mg of Wellmune® per day over 10 days to 4 weeks showed statistically significant results for reductions in URTI symptoms and duration, and improved general health, including decreased fatigue, anger, and confusion in conjunction with increased vitality. Wellmune® also improved immune responses, including a 32% increase in salivary IgA post exercise. Overall research shows the reduction in URTI severity and health benefits are independent of fitness, as was evidenced in trained, recreational, and adults of average fitness levels.[1]

In a 2020 published study of marathon runners, 250 mg of Wellmune® taken 45 days prior to, day of, and 45 days after the marathon, showed significantly fewer URTI symptom days and reduced symptom severity, compared to a macronutrient- and calorie-matched control.[4]

In adults, 500 mg of Wellmune® taken for 13 weeks reduced the number of missed work and school days due to illness and improved quality of life measures. While research in older adults found 250 mg of Wellmune® per day for the same duration showed a trend towards reduced number of days with URTIs.[1]

Additionally, supplementing with 250 mg of Wellmune® daily for four weeks significantly improved total allergy symptoms, symptom severity, physical health, and emotional wellbeing in adults with a moderate ragweed (Asteraceae family) allergy.[1] (See Table. 1)

Table 1. Researched Wellmune® dosages[1,4]

DOSE	TIME	OUTCOME
250 mg/ day	Three weeks (approximately)	• Significantly reduced URTI symptomatic days • Reduced symptom severity
250 mg/ day	Four weeks	• Significant improvements in allergy symptoms and severity • Improved physical and emotional wellbeing
250-500 mg/day	10 days - four weeks	• Reduction in URTI symptoms • Improved general health • Decreased fatigue, anger, confusion • Increased vitality
500 mg/ day	13 weeks	• Reduction in time away from work and school

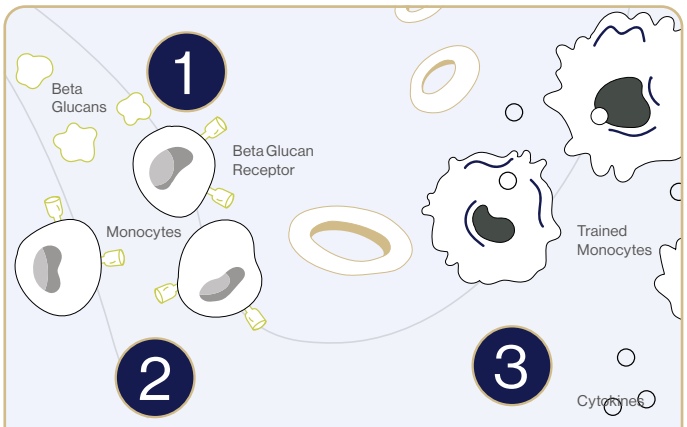
Watch this short (1 minute) video to learn more about Wellmune®

How does Wellmune® work?

Emerging research has shown that baker's yeast beta glucans improve immunosurveillance and pathogen elimination by enhancing the activity of the complement system and innate immune system defence to mount immunological responses.[1]

Once consumed, the Wellmune® beta glucans are well absorbed across the intestinal cells. They are identified as 'non-self', which stimulates the immune response. This begins in the innate immune system where the beta glucans are internalised into immune cells and phagocytosed into smaller particles. These particles are sent to the various immune organs and released over several days to interact and modulate innate immune responses.[1,2] (See Figure. 1)

Figure 1. The role of Wellmune® as a trainer of the immune system[5]



1. Beta glucans working in immunomodulators attach to beta glucan receptors on innate immune cells such as monocytes.
2. Upon detection of beta glucans, monocytes become trained.
3. Trained monocytes are now prepared to respond more efficiently to a threat, for example, by secreting appropriate cytokines.

The beta glucan fragments can have a direct impact on innate immune cells, the complement system, and antibody-mediated immunity. They promote and enhance the activity of white blood cell production to destroy pathogens, activate T cells, B cells and natural killer (NK) cells, and increase cytokine (including various interleukins and other mediators), and chemokine production.[1,2]

Bhoite et al., defined the role of Wellmune® based on clinical data to prime the immune response and not just to boost it for it to act imminently to enhance the immune system.[2]

SUMMARY

Emerging research shows that daily Wellmune® beta glucan supplementation positively impacts immune health, general wellbeing, and mood.

Further studies may reveal additional benefits of these immune modulators.

References

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