



Available in 60 vegetarian capsules

- Helps to promote feeling of well-being and decrease fatigue, tension and increase vigour in those under physical and mental stress

## Discussion

Beta-glucan has been recognized for its support of immune system activity for centuries<sup>[1]</sup>; and yeast-derived beta-glucan has become the subject of over 800 scientific studies to date. XymoGlucan ES™ contains concentrated 1,3/1,6 beta-glucan from the yeast *Saccharomyces cerevisiae*, a source known to support immune function.<sup>[2-4]</sup> Beta-glucan is produced by fungi, grains, seaweed, and yeast, but not by mammalian cells.<sup>[3-5]</sup> While each source of beta-glucan has its own unique structure of glucose linkages, purified yeast-derived beta-glucan from *S cerevisiae* is considered the most effective source.<sup>[6,7]</sup> Purity of the product is vital, since protein contaminants can cause untoward immune reactions. XyMOGEN's XymoGlucan ES is refined to remove most impurities, including proteins and fats that can interfere with uptake and effectiveness. Mannan, a potential trigger of allergic reactions or bowel exacerbation, has been removed. XymoGlucan ES™ provides 500 mg beta-glucan per capsule.\*

Ongoing research has unveiled a detailed mechanism of action, including activation of macrophages, neutrophils, and T-cell-mediated immunity.<sup>[3,8,9]</sup> Orally administered yeast beta-glucan is processed by macrophages—the first line of defense in cellular immunity<sup>[8]</sup>—with subsequent increases in phagocytosis, selective cytokine release, and oxidative degranulation.<sup>[10]</sup> Macrophages degrade beta-glucan into small fragments that are then bound to neutrophils (granulocytes), the most abundant immune cells in the body. Neutrophils then become primed and are better able to provide support against microbial challenges.<sup>[4]</sup> Through a process called chemotaxis, these primed neutrophils migrate to target sites with enhanced immune actions.<sup>[3, 11]</sup> Prophylactic administration of beta-glucan was found to positively affect levels of the antioxidant enzymes catalase and superoxide dismutase, moderate tissue-damaging cytokines, and assist in ameliorating microbial imbalance.\*<sup>[12]</sup>

Research demonstrates a sustained release of soluble fragments over a multi-day period, providing a unique mechanism of action for the beta-glucan form found in XymoGlucan ES. Studies also indicate that the entrance of these soluble fragments into the bone marrow may affect white-blood-cell recovery, further enhancing its health effects.<sup>[13]</sup> Individuals at increased risk for immune challenges, those in need of immune support, or those undergoing surgery have been found to benefit from XymoGlucan ES.<sup>[2,6,8,12,14]</sup> A 12-week, randomized, phase II, double-blind, placebo controlled, parallel-group trial of 1,3/1,6 beta-

glucan from *S cerevisiae* was conducted. Long-term use of beta-glucan was well tolerated and resulted in a reduction in acute immune challenge discomforts.\*<sup>[12]</sup>

## XymoGlucan ES™

### Medicinal Ingredients (per vegetarian capsule)

Brewer's yeast (*Saccharomyces cerevisiae* –whole cell, beta-1,3/1,6- Glucan 75%) ..... 500 mg

### Non-Medicinal Ingredients

Hypromellose, Stearic acid, Magnesium stearate, Silicon dioxide, medium-chain triglycerides.

### Recommended Dose

Adults: Take 1 capsule daily or as directed by a healthcare practitioner.

Use for a minimum of two weeks to see beneficial effects. Consult a healthcare practitioner prior to use if you are pregnant or breastfeeding. If you are taking non-steroid anti-inflammatory drugs, consult a healthcare practitioner.



## References

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Additional references available upon request

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