## 🖒 designs for health Australia

FloraMyces<sup>™</sup> ( §

Supports healthy digestive system and reduced symptom occurrence of traveller's diarrhoea

### OVERVIEW

- > Provides 500 mg Saccharomyces cerevisiae (Boulardii) per hard capsule
- > Relieves diarrhoea
- > Helps reduce occurrence of symptoms of traveller's diarrhoea when travelling
- > Maintains healthy digestive system function
- > Supports beneficial bacteria during antibiotic use in adults and children
- > Shelf-stable, low-excipient, dairy-free formula

# Active Ingredients (per vegetarian hard capsule) Saccharomyces cerevisiae (Boulardii) 500 mg Pack Size 60 Serving Per Pack 30-60

#### Excipients

Hypromellose

#### **Directions for Use**

Adults: Take 1 – 2 capsules per day or as directed by your healthcare professional.

#### **Allergen Information**

No added: Gluten, soy, dairy or nuts.

#### **Prescribing Information**

- Contraindicated in individuals have a known yeast allergy.<sup>10</sup>
- Saccharomyces boulardii is a yeast. Theoretically, antifungals might decrease its effectiveness.
   Antifungals include fluconazole (Diflucan), caspofungin (Cancidas), itraconazole (Sporanox) amphotericin (Ambisome), and others.<sup>10</sup>

#### Warnings

Seek medical advice if diarrhoea persists for more than 6 hours in infants under 6 months, 12 hours in children under 3 years, 24 hours in children ages 3-6 years or 48 hours in adults.

Designed and packed in Australia from imported ingredients.















© 2020 Designs for Health Pty Ltd

designsforhealth.com.au

#### **EDUCATION**

#### A probiotic yeast

Saccharomyces cerevisiae (Boulardii) (also known as Saccharomyces boulardii or SB) is an unusual probiotic. Most probiotics are beneficial bacteria, but *S. boulardii* is a yeast. Unrelated to the yeasts which can cause disease, like candida, *S. boulardii* was identified in the 1920s as an antidiarrhoeal agent after the microbiologist Henri Boulard found that indigenous peoples who consumed a drink prepared from mangosteen and lychee skins did not develop diarrhoea.<sup>1</sup>

An important function of the intestinal epithelium is to act as a barrier to prevent bacteria and other microorganisms from crossing into the body tissues. The tight junctions between epithelial cells can widen due to lifestyle, disease or pathogens, compromising the barrier. One way in which *S. boulardii* protects against infection is by maintaining the structure of tight junctions.<sup>1</sup>

When certain pathogenic bacteria enter into the intestinal lumen, the presence of S. boulardii can mitigate the harmful effect. Not only by maintenance of the tight junctions, but also by acting directly on the pathogen.

An oft-studied pathogen, and the effect of *S. boulardii* on it, is *Clostridium difficile*. *C. difficile* emits two toxins, toxin A and toxin B, which are pro-inflammatory. Animal models propose two mechanisms of action of *S. boulardii* during *C. difficile* infection: inhibition of adhesion of toxin A to its receptor, and an immunomodulatory effect whereby *S. boulardii* increases the circulation of anti-toxin A.<sup>1</sup>

Supplementation with *S. boulardii* has been found to increase levels of *Bacteroides* and decrease the relative level of *Firmicutes*.<sup>2</sup> Low levels of *Bacteroides* have been associated with inflammation of the gut.<sup>3</sup> A high level of *Firmicutes* is thought to be associated with weight gain.<sup>4</sup> It is likely that dysbiosis is a causal factor to these complaints, rather than a side-effect.<sup>3,4</sup>

#### Gnosis Biootic® S. boulardii

The *S. boulardii* in FloraMyces<sup>™</sup> is Gnosis Biootic<sup>®</sup>. Their inhouse production from initial fermentation to end product gives a guarantee of quality, with superior stability and a long shelf-life.<sup>5</sup>

Gnosis Biootic\* is lactose free, gluten free, kosher, halal and verified by the Non-GMO project.  $^{\rm 5}$ 

#### Supportive during antibiotic treatment

Antibiotic-associated diarrhoea (AAD) is a common side effect of antibiotic therapy. While both bacterial probiotics and *S. boulardii* can be beneficial for helping to reduce the symptoms and occurrence of AAD,<sup>16</sup> bacterial probiotics are subject to the effect of the antibiotic potentially rendering them less effective. Unlike bacterial probiotics, *S. boulardii* is not affected by antibiotics.

Several systematic review and meta analyses found that *S. boulardii* reduced the risk of AAD from 17.7-18.7% to 8.0-8.5% compared with placebo in adults, and from 20.9% to 8.8% in children,<sup>6.7</sup> or a reduction in relative risk of AAD of 50% or more in children taking *S. boulardii*.<sup>8</sup>

Several studies have shown that taking *S. boulardii* during and after antibiotic therapy helps to protect the microbiome from negative effects of the antibiotic and helps the microbiome to return to its normal state at an accelerated rate.<sup>1</sup>

#### Supportive while travelling

Traveller's diarrhoea is a common complaint, affecting 20-40 million people a year. Despite increasing awareness of behavioural modifications to prevent traveller's diarrhoea (for example drinking only bottled water and not taking ice in drinks) there has been little drop in incidence. Traveller's diarrhoea is thought to occur from increased exposure to pathogenic bacteria with concurrent dysbiosis due to stress while travelling, medications and dietary changes.<sup>9</sup>

A systematic review and meta-analysis of probiotics as a prophylactic against traveller's diarrhoea found that *S. boulardii* had the strongest evidence of effectiveness for preventing traveller's diarrhoea.<sup>9</sup> This is likely due to its ability to maintain a healthy gut microbiome and its immunomodulatory effect in the presence of pathogens.

Unlike many bacterial probiotics, *S. boulardii* does not need to be refrigerated. This makes it a convenient preventative to traveller's diarrhoea, negating the need for worry over storage.

References supplied on request.

gnosis

advanced biotech

