# ORTHO BIOTIC® R





#### **CLINICAL APPLICATIONS**

- Helps Maintain Gastrointestinal Balance
- Increases Secretory IgA for Enhanced Gut Immunity
- Supports Bowel Regularity
- Supports Digestion and Micronutrient Absorption

# GASTROINTESTINAL SUPPORT

Ortho Biotic® R is a unique reserve of probiotic strains for individuals who have an altered microbiome signature that needs a targeted reset. Ortho Biotic® R was developed for those who have unique microbiome challenges that do not respond to typical probiotic regimens. These patients have been categorized as having a "resistor"-type microbiome that needs to be reset and renewed. It upholds the same strain diversity and potency approach as Ortho Biotic® but contains a different set of probiotic strains with *Saccharomyces boulardii* for enhanced gut microbial variety and ecosystem stability. In addition, it can be used for those who prefer a rotational approach to probiotics to bolster the microbiome footprint. Ortho Biotic® R offers an evidence-based, complementary probiotic formula to support individual microbiome needs.

#### **Overview**

Individual gut microbiomes have unique needs, and the gut mucosa can have person-specific colonization resistance to probiotics. Recent research findings demonstrate that individuals have personalized, strain-specific mucosal colonization patterns, hallmarked by predictive, pre-treatment host features. Probiotics are shown to transiently colonize the human gut mucosa in highly individualized patterns, thereby differentially impacting the microbiome and host gene-expression profile. As a result, probiotic supplementation may be limited in universality and its persistence in impacting the gut mucosa. No single probiotic may be suitable for everyone at all times, which warrants alternative strain probiotic approaches.

There is extensive evidence supporting daily use of a multi-strain probiotic. Most strains colonize the gut for up to a few weeks,

during which time they improve the intestinal environment and encourage the recovery of natural gut flora. Numerous studies have characterized probiotics as having broad GI and immune benefits,<sup>2</sup> including (1) increasing the population of healthy bacteria following microflora imbalance; (2) supporting healthy bowel function; (3) increasing the production of shortchain fatty acids, which provide energy to the cells of the intestinal lining; (4) strengthening the gut-immune barrier by promoting a healthy gut mucosa; (5) aiding in the digestion of difficult-to-break-down compounds like lactose and casein; and (6) enhancing detoxification of harmful compounds.

Despite the well-documented benefits of taking a high-quality, multi-strain probiotic, the necessary type and timing of probiotic supplementation may vary considerably within an individual, depending on diet, age, activity levels and immune factors. While most strains of bacteria quickly reproduce in the gut, other factors—such as competition, environmental conditions and individual characteristics—may result in limits to bacteria populations.<sup>3</sup> These and other clinical factors can result in diminishing benefits with probiotic supplementation in some individuals.

The microorganisms in Ortho Biotic® R are protected, sealed and freeze dried away from moisture, heat, light and oxygen, and they are shelf-stable through the expiration date. This allows the bacteria to remain dormant until they are exposed to moisture in the GI tract. By utilizing advanced BioShield® encapsulation technology, the probiotic organisms are preserved and delivered precisely on-target in the intestinal tract for maximum benefit.



# Lactobacillus acidophilus, DDS-1™†

Lactobacillus acidophilus is known to relieve GI discomfort. The DDS-1™ bacteria strain modulates intestinal-specific microbiota, short-chain fatty acids and immunological profiles in aging mice. Also, it exhibits superior in-vitro probiotic efficacy when compared to other species, and it provides relief for lactose intolerance.⁴

#### Lactobacillus reuteri, UALre-16™†

Lactobacillus reuteri strengthens the intestinal barrier and decreases microbial translocation from the gut lumen to the surrounding tissues, supporting normal inflammatory balance. The UALre-16™ bacteria strain supports a balanced microbiome with the production of organic acids, ethanol and reuterin, and it benefits the immune system by influencing cytokine production while promoting regulatory T-cell development and function.<sup>5</sup>

# Bifidobacterium lactis, UABIa-12®†

Bifidobacterium lactis improves the metabolic activities of commensal bacteria while helping to relieve a variety of Gl discomforts. Human study data demonstrates the UABla-12® bacteria strain improves abdominal discomfort and severity scores with a corresponding normalization of bowel habits after six weeks.<sup>6</sup>

# Lactobacillus salivarius, UALs-07™†

Lactobacillus salivarius demonstrates high survivability in the gut, specifically a high tolerance for stomach acid and bile salts, and it shows antibiotic resistance. The UALs-07™ bacteria strain also has strong adherence potential and demonstrated comparatively excellent adherence to the Caco-2 monolayer, which translates to the ability to adhere to the intestinal wall and helps this strain have lasting effects on immune and digestive health. Additionally, the UALs-07™ bacteria strain abundantly produces lactic acid.<sup>7</sup>

#### Lactobacillus casei, UALc-03™†

Lactobacillus casei has been combined with other probiotic strains of bacteria to assist with regular bowel habits and protect against the effects of unwanted organisms. The UALc-03™ bacteria strain has been shown to be naturally resistant to stomach acid and bile, ensuring its survivability.<sup>8</sup>

#### Streptoccocus thermophilus, UASt-09™†

Streptoccocus thermophilus upregulates goblet cell activity in colonic epithelial cells to a greater degree than other probiotic strains. The UASt-09™ bacteria strain showed promising potential in refining the mucosal barrier by improving mucus biosynthesis and intestinal immune response under in-vitro conditions.9

#### Saccharomyces boulardii<sup>†</sup>

Saccharomyces boulardii is a probiotic yeast that was first isolated from the skin of the tropical fruits lychee and mangosteen in 1923 by French scientist Henri Boulard, following the observation that mangosteen consumption controlled occasional diarrhea in natives of Southeast Asia. S. boulardii plays a role in supporting immune defense by increasing levels of slgA, creating a first line of defense that helps bind and clear harmful bacteria.<sup>10</sup>

# **Directions**

1 capsule per day or as recommended by your health care professional.

#### **Does Not Contain**

Gluten, corn, artificial colors or flavors.

#### **Cautions**

If you are pregnant or nursing, consult your physician before taking this product.

Supplem Serving Size 1 Capsule Servings Per Container 30		cts
	Amount Per Serving	% Daily Value
Proprietary Blend	178 mg (20 Billion	CFU <sup>++</sup> )
Lactobacillus acidophilus	(DDS-1™)	*
Lactobacillus reuteri (UAI	Lre-16™)	*
Bifidobacterium lactis (UA	ABla-12®)	*
Lactobacillus salivarius (\	JALs-07™)	*
Lactobacillus casei (UALo	c-03™)	*
Streptococcus thermophi	lus (UASt-09™)	*
Saccharomyces boulardii	200 mg (3 Billion (	CFU <sup>++</sup> ) *
* Daily Value not established.		

Other Ingredients: Microcrystalline Cellulose, Hypromellose (Natural Vegetable Capsule), Magnesium Stearate and Silicon Dioxide.

++Colony Forming Units

ID# 479030 30 Capsules



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**EFFICACY**