



Biofilm ProBalance™

1605 45 Capsules



DIGESTIVE HEALTH

YEAST MICROBIOME BALANCE

- Probiotic + Enzyme + Whole Food formula to support beneficial yeast populations in the GI tract*
- Helps balance naturally occurring yeasts like Candida in the GI tract*

BIOFILM REGULATION

- Promotes healthy gut microbiome structure*
- Featuring organic garlic and kale, whole foods with in vitro data demonstrating support for biofilm balance*
- Regulates mixed species biofilm matrices in the GI tract*
- Balances the structure and development of microbial communities and extracellular components*

DIGESTIVE HEALTH SUPPORT

- Supports intestinal comfort*
- Helps relieve occasional bloating*

Importance of the Mycobiome

The gastrointestinal (GI) tract is home to trillions of important microorganisms, commonly referred to as the gut microbiome. But the microbiome is more than bacteria — it also includes fungi, collectively defined as the mycobiome.¹ Therefore, a healthy gut microbiome includes both bacteria and fungi, which interact with each other. These interactions can cause individual microorganisms to act differently than they otherwise would.¹⁻³

Just as imbalance among bacterial species can impact gut health, imbalanced yeast populations can also lead to issues in the GI tract. For example, *Candida albicans* naturally occurs on mucosal surfaces in the GI tract. Certain conditions or exposures can disrupt the *C. albicans* community including bacterial imbalance, certain medications, aging, a diet high in refined carbohydrates, and metabolic health concerns.^{4,5} The result is the opportunistic overgrowth of *C. albicans* and the development of multispecies biofilms.⁴

What Are Biofilms?

Biofilms are polymeric substances made up of microbes and extracellular components. They behave as a unit in response to the environment as opposed to singular bacterial responses.⁶ They are a normal structural aspect of the GI tract, and their structure is affected by multiple factors that include pH, nutrients, oxygen, and the kind of surface to which it is attached.⁶

Biofilms can form between beneficial organisms, increasing their residence time, protecting them from external challenges, and aiding in nutrient absorption.⁶ However, biofilms can also form between potentially harmful bacteria and fungi. In health challenges characterized by imbalance of the gut microbiome, levels of beneficial microorganisms are lower while levels of potentially harmful bacteria increase.⁷ Altered gut microbiome communities are also typically marked by elevated fungal load and overgrowth of yeast that naturally occur, such as *C. albicans* and *C. tropicalis*.¹ To support a healthy GI tract and gut microbiome, it is important to shift the balance of the bacteria and fungi in the microbiome back towards beneficial microbes.^{1,7,8}

Warning: If pregnant or nursing, or have any health condition, consult your health care professional before using this product. Keep out of reach of children.

Supplement Facts

Serving Size: 3 Capsules
Servings per Container: 15

	Amount per Serving	%Daily Value
Calories	10	
Total Carbohydrate	2 g	1%*
Proprietary Blend	1,430 mg	†
<i>Lactobacillus acidophilus</i> , <i>Lacticaseibacillus rhamnosus</i> , yeast (<i>S. boulardii</i>), organic kale (aerial parts), organic garlic, <i>Bifidobacterium breve</i> , and alpha amylase.		

*Percent Daily Values are based on a 2,000 calorie diet.

†Daily Value not established.

Other Ingredients: Cellulose and water.

BIOHM FX® is a registered trademark of BIOHM Health Inc. With *Lactobacillus acidophilus* 16axg, *Saccharomyces boulardii* 16 mxg, *Lacticaseibacillus rhamnosus* 18fx, *Bifidobacterium breve* 19bx, and alpha amylase.

One serving of Biofilm ProBalance™ contains 60 billion CFU at time of manufacture.

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Gluten-Free products have been tested to verify they meet the regulations associated with the United States Food and Drug Administration's gluten-free labeling. **Vegan** products are devoid of animal-based tissue, animal-based gelatin, or fish oils. They are also devoid of animal-based ingredients such as dairy, eggs, honey, beeswax, and lanolin. **Non-Dairy** products have been formulated to not contain milk or milk-derived ingredients. **Non-Soy** products have been formulated to not contain soy or soy-derived ingredients. **on-Grain** products have been formulated to not contain any true cereal grain or grain-derived ingredients such as those from wheat, rice, oats, cornmeal, barley, or another cereal grain.



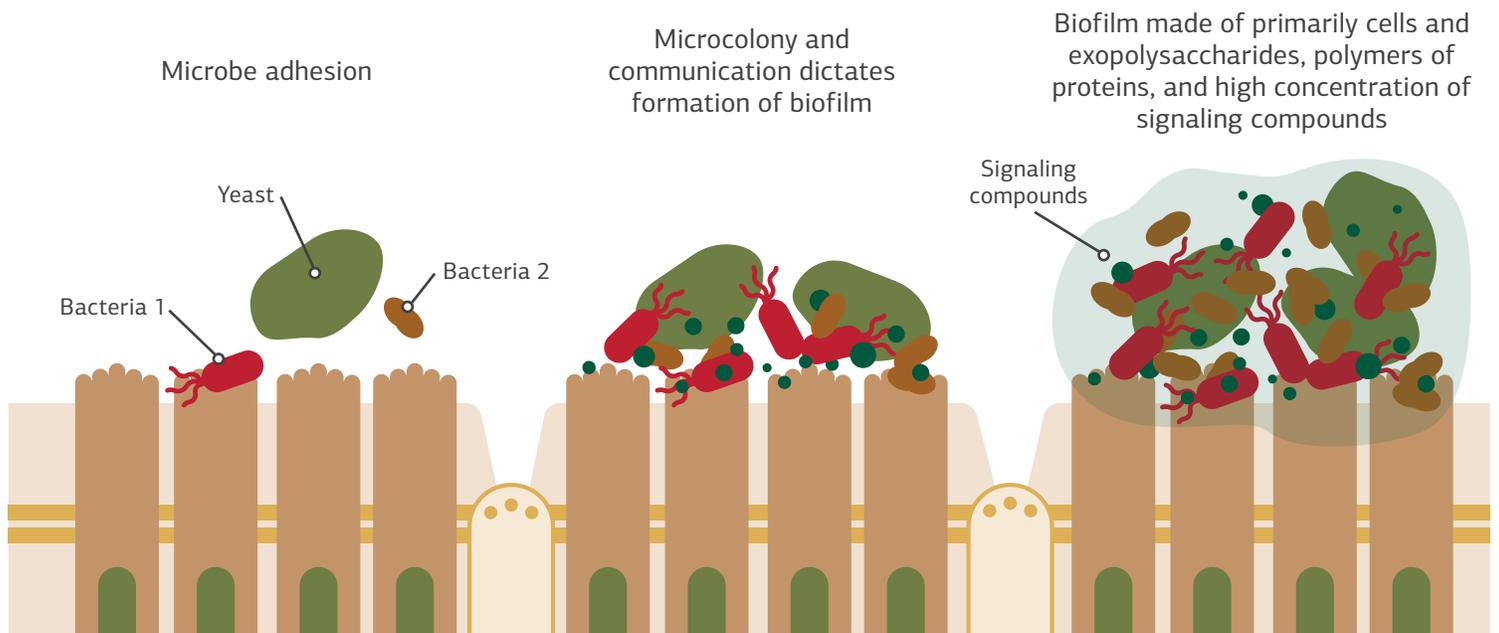


FIGURE 1: Multi-species microbial biofilm formation in the GI tract occurs when bacteria and yeasts adhere to intestinal cells, begin to grow exponentially, and interact to develop a protective barrier from the external environment of the GI tract. This large grouping helps them evade host defenses, share nutrients, and prolong their residence time in the GI tract. This can create a substantial challenge for any GI intervention.

Multi-Tiered Support

Biofilm ProBalance™ contains BIOHM FX®: a proprietary probiotic and enzyme blend that has been validated in several *in vitro* and clinical studies to support mycobiome balance and digestive health, including antagonizing *Candida* yeasts.⁸

In 49 healthy volunteers, once-daily oral administration of BIOHM FX® altered several fungi species, aligning the abundance with levels similar to those found in healthy control profiles.⁸ BIOHM FX® also significantly reduced the abundance of *Candida* species as well as species in the Firmicutes phylum, normalizing the abundance ratio between Bacteroidetes and Firmicutes phyla.⁸ Additionally, in a separate study of 52 healthy volunteers, consumption of BIOHM FX® improved multiple common GI symptoms including flatulence, constipation, bloating, abdominal discomfort, bowel regularity and gastrointestinal symptom rating scale (GSRS) scores.⁹

In vitro studies have revealed the biological actions for the gut-supporting ingredients found in Biofilm ProBalance™. BIOHM FX® disrupted mixed species biofilms, including those formed by *C. tropicalis* with *E. coli* and *S. marcescens*.⁷ Exposure of *C. tropicalis* biofilms to BIOHM FX® reduced

biofilm matrix, decreased thickness, and inhibited hyphal formation. Both immature and mature biofilms showed a complete absence of the extracellular matrix when exposed to BIOHM FX®.⁷ In *C. albicans* biofilms, BIOHM FX® inhibited germ tube formation — a key step in germination.⁷

The individual components found in Biofilm ProBalance™ can independently support GI health and balance yeast in the GI tract through a variety of mechanisms:

S. BOULARDII: Secretes factors like fatty acids and enzymes that promote a healthy GI microenvironment and lower the pH to inhibit hyphal formation.*¹⁰

LACTOBACILLUS SPECIES: Decrease pH which may help oppose biofilm formation and maturation.*¹¹

L. RHAMNOSUS: Regulates *C. albicans* actions including metabolism, gene expression, and filamentation.*¹²

AMYLASE: Targets the exopolysaccharide components of the matrix of biofilms, allowing for targeted candida support.*¹³

Whole Food Support for Biofilm Balance

Organic garlic and kale provide multiple benefits to the GI tract, including supporting biofilm balance. Internal testing at Standard Process demonstrated the ability of kale and garlic to regulate biofilms using an in vitro assay. When used in a 50:50 combination, the mixture of garlic and kale inhibited the formation of biofilms from bacteria and yeast (Figure 2).

Together, these ingredients support healthy yeast microbiome balance.

Percentage Reduction of Microbe Biofilm Formation vs. Control from Bacteria and Yeast

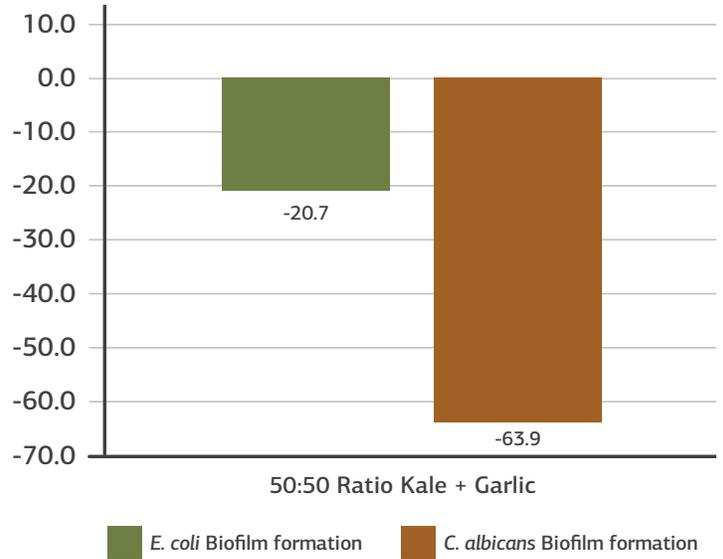


FIGURE 2: Biofilm formation inhibition from *E. coli* (green) and *C. albicans* (brown) based on a 50:50 combination of kale and garlic used at a dose of 500 mcg/ml for bacteria and 1670 mcg/ml for yeast.

Since 1929, **Standard Process** has been changing lives with our whole food philosophy.

REFERENCES

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