

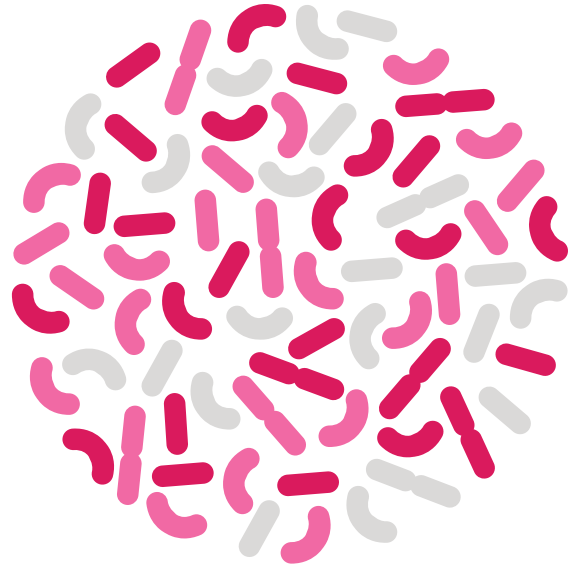
Probonix Research Study: An Independent Look at Probiotic Performance

Traditional Probiotics Fall Short

Research indicates that anywhere from 80-99% of traditional, unprotected, live probiotic cells will be killed off by stomach acid before reaching the intestine.¹

In order for the good bacteria to provide their beneficial effects, they must be able to survive in numbers high enough to allow them to do their jobs.² The way that most traditional probiotic products are packaged and processed does not promote high survival rates. These traditional probiotic supplements often claim billions of active cells per dose on their labels, but they do not promise whether these probiotic cells will stay alive and healthy once they enter the intestines.

Some companies claim to use special processing techniques, like “microcapsulation” that is supposed to shield the probiotic cells from the damaging effects of the stomach acid, but research indicates that none of these methods have resulted in viable probiotics with higher survival rates.³



The Breakthrough Technology Behind Probonix

At the heart of the science behind Probonix, is the breakthrough of using fermentation technology. The Humarian research team immediately realized the primary focus of their efforts must be the survival of the bacterial cultures through the stomach. With this mission in mind, they set out to create a method to protect the cultures and ensure that the highest possible percentage would make it through alive.

Probonix was developed using cutting-edge fermentation technology to deliver stable and viable probiotic bacteria safely into your intestines. Instead of putting billions of probiotic bacteria into a pill and hoping some organisms make it to the intestines alive, this exclusive proprietary process protects each live cell from the harsh bile and stomach acid.

Probonix is saturated in a solution that places the individual bacteria in a temporary static state and protects them against the stomach acid. Only after they reach the intestines do they become activated and provide their many health benefits.

Independently Tested For Performance

In order to make sure our products are shelf-stable and can truthfully guarantee the high survival rates that we promise, Humarian hired TNO Triskelion to perform a non-biased, independent validation study on Probonix.

The goal of this study was to determine whether Probonix was superior to the top physician probiotic brand in its ability to maintain a high survival rate when passing through the digestive system. This goal was tested by passing the products through TIM-1, a system designed to accurately simulate the upper gastro-intestinal tract. Major pharmaceutical companies have used this system to test the digestive properties of their drugs and other products.

Comparison Of Starting Cell Count

Table 1 (below) shows the amount of probiotic cells introduced into the TIM system for each product. The numbers are lower for Probonix because there were less probiotic cells introduced initially, not because fewer cells survived. The theoretical CFU indicates the number of probiotics that is intended to be in the product. The viable CFU indicates the number of probiotics that are actually alive in the product when measured. This number differs from the theoretical count due to factors like product shelf life or death of probiotics during the manufacturing process. #2 Pro-Plus Beta was an additional experiment to see if a specific raw material would have a synergistic or inhibitory effect on our flagship product Probonix. As you can see, it had an inhibitory effect, so that specific raw material is not part of the Probonix line. The focus of the remaining discussions is on the important results for #1 Probonix and #3 Top Physician Brand.

test product	lactobacilli		bifidobacteria		total	
	theoretical CFU	viable CFU	theoretical CFU	viable CFU	theoretical CFU	Viable CFU
#1 Probonix	7.00E+09	3.40E+09	2.80E+09	7.48E+06	9.80E+09	3.40E+09
#2 Pro-Plus Beta	5.00E+09	1.33E+10	5.00E+09	2.83E+07	1.00E+10	1.34E+10
#3 Top Physician Brand	5.00E+09	6.85E+09	5.00E+09	1.34E+08	1.00E+10	6.98E+09

Table 1. Theoretical and viable amount of probiotic cells as brought into TIM-1 for lactobacilli, bifidobacteria and the total of lactobacilli plus bifidobacteria in the three test products, measured by using qPCR-PMA analysis (converted to CFU, mean, n=2).

Comparison After Passing Through TIM-1 System

After passing through the TIM-1 system, the average number of lactobacilli that survived was highest for Probonix. These results are displayed below (Figure 1). The numbers in this table represent the total number of probiotics that have survived the entire journey through the TIM-1 system. These numbers increase over time because most of the probiotics are still working their way through the system during the early stages.

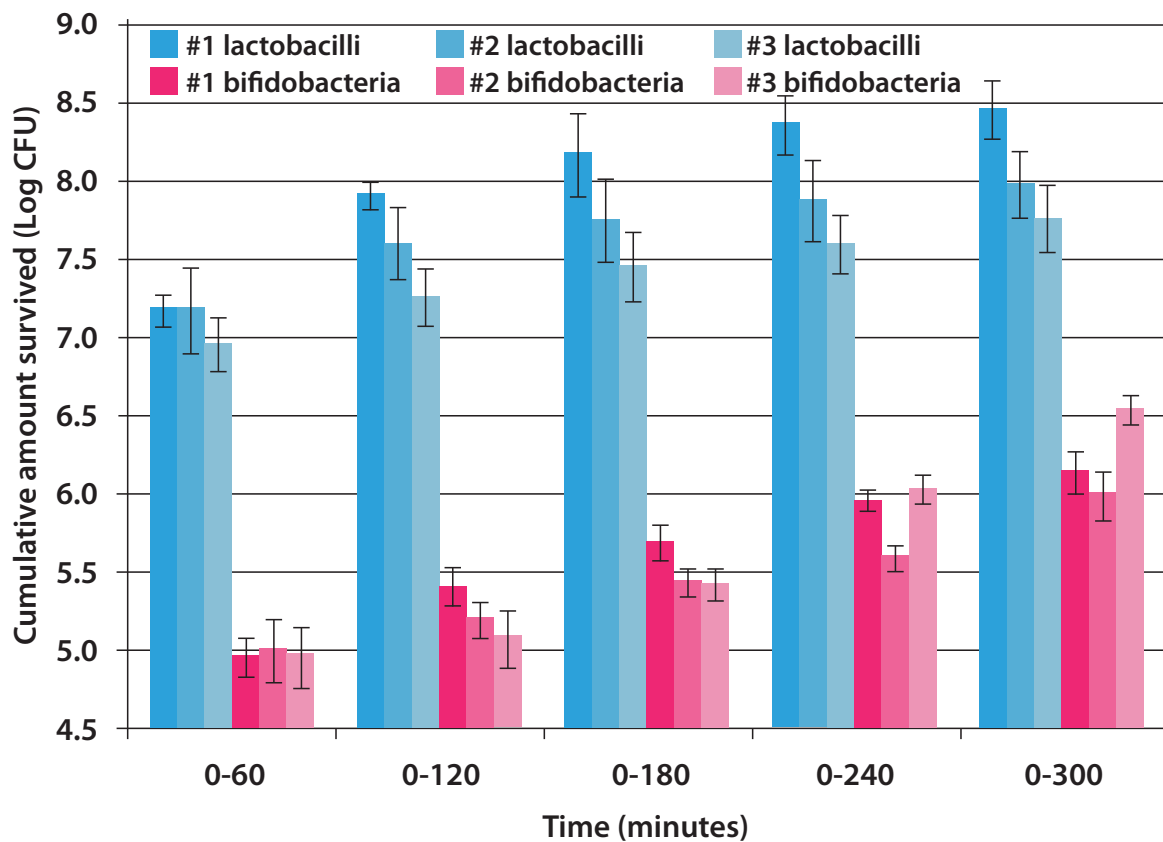


Figure 1. Cumulative amount of lactobacilli (blue) and bifidobacteria (pink) in #1 Probonix, #2 Pro-Plus Beta and #3 Top Physician Brand, surviving passage through TIM-1 as measured by using qPCR-PMA analysis converted to CFU (expressed as log CFU, mean \pm range, n=2).

What's Important About the Numbers

You may look at the figure above and think that the numbers of surviving probiotic cells is higher for Probonix, but not by much. That is true until you account for the numbers that were initially introduced into the system from Table 1. Due to the significant differences between the amounts of viable probiotic cells introduced into the TIM-1 system from each product, the most important highlight from this study is the percentage survival rate. This is illustrated below (Figure 2).

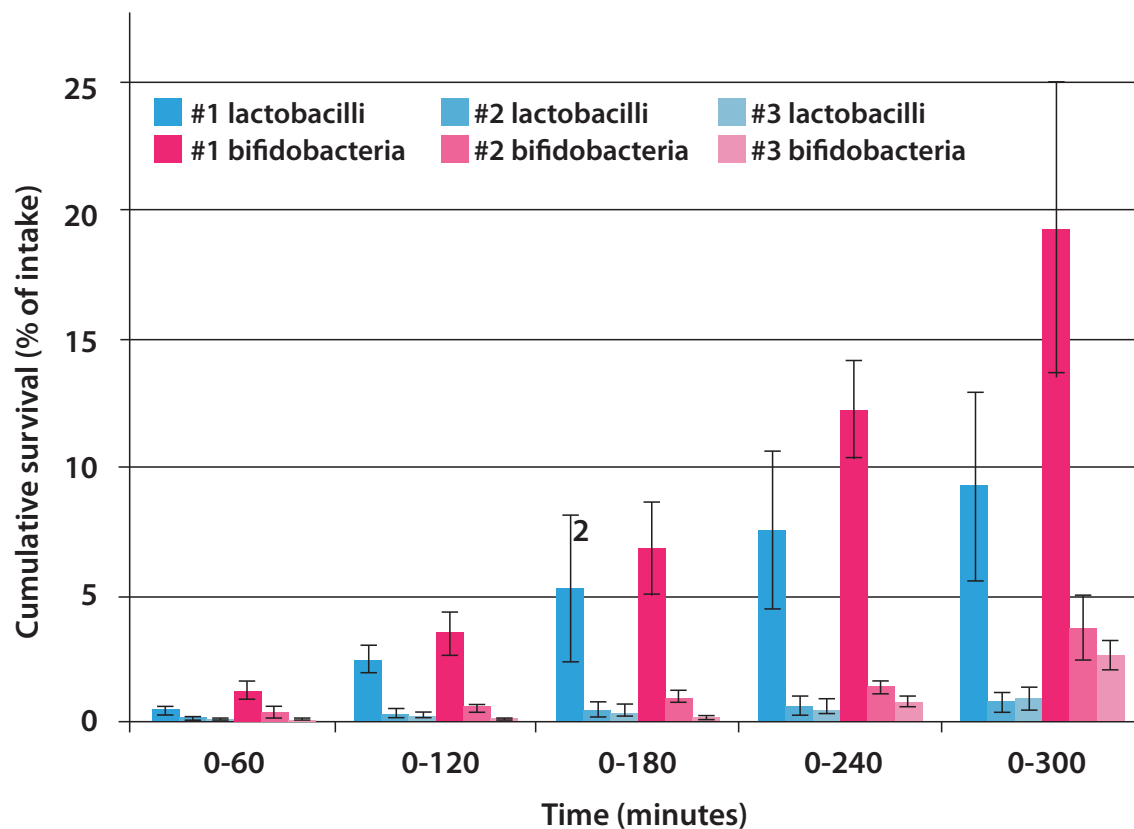


Figure 2. Cumulative survival of lactobacilli (blue) and bifidobacteria (pink) in #1 Probonix, #2 Pro-Plus Beta and #3 Top Physician Brand, during 5 hours through TIM-1 as measured by using qPCR-PMA analysis converted to CFU (% of intake, mean \pm range, n=2).

Probonix Outperforms the Top Physician Brand

This figure shows that the bifidobacteria survival rate in Probonix is more than seven times higher than in the Top Physician Brand. Even more impressive is the fact that the lactobacilli survival rate in Probonix is over 10 times higher than in the Top Physician brand.

While the numbers in Figure 1 may look similar, the reality is the Top Physician brand knows its product has low survival rates which forces them to load their product with excessive amounts of probiotic cells. This means that it costs more for you to buy the product, and the number of probiotic cells that make it through the stomach acid is much lower than Probonix.

We Test Because We Care

Claiming a probiotic is effective, and being able to prove it are two vastly different things. If you've been researching probiotic supplements for any length of time, you have discovered that companies make lofty claims about their supplements... because it's tough to prove them wrong.

Testing the efficacy of probiotics is a complex and expensive process, which is why we are not aware of any other probiotic manufacturer than tests their products. Because of the monumental innovation by the Humarian research team, we are happy to put our money where our mouth is and bring transparency to the probiotic marketplace.

We hope this information helps you in your research to find the right probiotic for you and your family. The testing of our products is incredibly important to us because it's important for you to know the whole truth.

Good luck in your research! Our team is here to help answer any questions you might have. Simply email us at questions@humarian.com.

And be healthy!

Sources

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2. Del Piano M, Morelli L, Strozzi GP, Allesina S, Barba M, Deidda F, Lorenzini P, Ballaré M, Montino F, Orsello M, Sartori M, Garelo E, Carmagnola S, Pagliarulo M, Capurso L. Probiotics: from research to consumer; *Dig Liver Dis*. 2006 Dec;38 Suppl 2:S248-55.
3. Kailasapathy K. Microencapsulation of probiotic bacteria: technology and potential applications. *Curr Issues Intest Microbiol*. 2002 Sep;3(2):39-48.

About Humarian

The Humarian team brings over 44 years of clinical patient care and over 84 years in the affiliated healthcare market place. Our products are designed to meet unique health and wellness needs. Our product design approach utilizes sound research and clinical judgment to produce the most effective, economical, and safe products on the market.