

# Nutri-5051<sup>®</sup>



Patented Plant Based & High Temperature Resistant Probiotic Ingredient for Humans

## What is Nutri-5051<sup>®</sup>?

**Nutri-5051<sup>®</sup>** is the premium human probiotic ingredient made with **5051<sup>®</sup>**, a patented natural plant based *Pediococcus acidilactici* probiotic (beneficial bacteria). **Nutri-5051<sup>®</sup>** is resistant to high temperatures up to 185°F, non-GMO, gluten free and made in the USA. **Nutri-5051<sup>®</sup>** provides **10 billion CFU\* per gram guaranteed** at time of consumption and has been successfully incorporated into chocolate, nut butters, yogurt, oils, supplements and other products to help support digestive and immune health.

\*Colony-Forming Unit, a measure of viable bacterial numbers

## What is 5051<sup>®</sup>?

**5051<sup>®</sup>** is a patented, non-spore forming and high temperature resistant (up to 185°F) plant based *Pediococcus acidilactici* probiotic derived from wild grasses.

## How is 5051<sup>®</sup> different from other probiotics?

Because of its ability to survive naturally harsh conditions, **5051<sup>®</sup>** can successfully travel through the stomach's acidic environment and into the intestines and colon alive, conferring health benefits to humans and animals. Many other probiotics are unable to survive the journey through the digestive tract at high enough rates to confer health benefits. Resistant to oxygen and high temperatures up to 185°F, **5051<sup>®</sup>** is well suited to manufacturing and does not require any special or expensive cleaning processes.

## 5051<sup>®</sup> is:

- The trademarked name for the patented strain of plant based, non-spore forming probiotic bacteria, *Pediococcus acidilactici* **NRRL B-50517**
- Used as an ingredient in a variety of foods, beverages, and supplements to confer additional health benefits to consumers
- Safe: it is not a drug. *Pediococcus acidilactici* is GRAS (Generally Recognized As Safe) by the FDA
- Clinically studied with multiple papers published in scientific journals and presented at domestic and international conferences
- Supported by more than 5 issued patents
- Resistant to stomach acid, high temperatures (up to 185°F), and oxygen
- Non-spore forming: it does not require any special cleaning processes required by spore-forming probiotics
- Calorie-free, gluten-free, tasteless and will not change the composition of any product
- A sustainable, non-GMO ingredient
- Made in the USA



## Clinical Studies *Pediococcus acidilactici*

### ***Probiotics as alternative biomedicines for pets with digestive disorders***

Proceeding of 8th Annual Meeting of Japanese Board of Veterinary Practitioners, 2006; 3-288-292  
J.J. Lin

### ***Pediococcus- a unique probiotics we use as a novel GI supplement***

Proceeding of 9th Annual Meeting of Japanese Board of Veterinary Practitioners, 2007; 369-372  
W. Mizutani, R Yamasaki, J.J. Lin, M Kuki and G. Kato

### ***Influence of Pediococcus-Based Probiotic on Coccidiosis in Broiler Chickens***

Poultry Science, 2007, 86:63-66  
S.H. Lee, H.S. Lillehoj, R.A. Dalloul, D.W. Park, Y.H. Hong, and J.J. Lin

### ***Pediococcus, the probiotics naturally resistant to acidic environment, can concurrently be applied together with antibiotics***

Companion Animal Practice, 2008; 231:74-75  
J.J. Lin and T. Ishida

### ***Clinical Benefits of Pediococcus acidilactici and Saccharomyces boulardii strains with Mannanligosaccharides in dogs with Inflammatory Bowel Disease and Non-specific Enteropathies***

Companion Animal Practice, 2009; 243:46-49  
J.J. Lin, G. Kato, M. Saito, T. Ueda, M. Yamada, I. Mochizuki, T. Shibani, and T. Ishida

### ***Pediococcus-The choice of probiotics for health benefits***

Companion Animal Practice, 2009; 243:38-41  
J.J. Lin and T. Ishida

### ***Effectiveness of Pediococcus- and Saccharomyces- probiotics to reduce stress related digestive disorders in dogs***

Companion Animal Practice, 2009; 243:50-52  
J.J. Lin, G. Kato, M. Saito, T. Ueda, M. Yamada, I. Mochizuki, T. Shibani and T. Ishida

### ***Can Pediococcus-based probiotics be administered to cats and dogs together with steroids and immune suppressors against chronic diseases?***

Proceeding of 12th Annual Meeting of Japanese Board of Veterinary Practitioners, 2010; 12:3-352-356  
J. J. Lin, T. Ishida, K. Ishihara, K. Owada, G. Kato, Y. Kasanami, H. Nagae, S. Tachikawa and R. Yamazaki

### ***Application of Pediococcus-based probiotics in the treatment of intractable medical cases in veterinary medicine***

Proceeding of 13th Annual Meeting of Japanese Board of Veterinary Practitioners, 2011; 13:239-243  
J. J. Lin, H. Ito, K. Ishihara, T. Mori, A. Okano, K. Owada, G. Kato, Y. Kasanami, H. Naga, S. Tachikawa, R. Yamazaki and T. Ishida

### ***Effects Application of Pediococcus-based probiotics to chronic renal diseases***

Proceeding of 14th Annual Meeting of Japanese Board of Veterinary Practitioners, 2012; 14:337-341  
J. J. Lin, H. Ito, K. Ishihara, T. Mori, A. Okano and T. Ishida

### ***Application of Pediococcus-based probiotics for various medical conditions***

Proceeding of 16th Annual Meeting of Japanese Board of Veterinary Practitioners, 2014; 16:431-434  
J.J. Lin, H. Ito, K. Ishihara, G. Kato, Y. Kasanami and T. Ishida

### ***Enhanced Control of Listeria monocytogenes by In Situ-Produced Pediocin during Dry Fermented Sausage Production***

Applied and Environmental Microbiology, 1992; 58: 884-890  
P.M. Foegeding, A.B. Thomas, D.H. Pilkington, and T.R. Klaenhammer

### ***Functional properties of selected starter cultures for sour maize bread***

Food Microbiology, 2008; 25: 616-625  
M.O. Edema and A.I. Sanni

### ***Pediococcus acidilactici as a potential probiotic to be used in food industry***

International Journal of Food Science and Technology, 2015; 50: 1151-1157  
J. Barbosa, S. Borges and P. Teixeira

### ***Co-cultivation of a bacteriocin-producing mixed culture of Bifidobacterium thermophilum RBL67 and Pediococcus acidilactici UVA1 isolated from baby faeces***

Journal of Applied Microbiology, 2009; 107: 36-46  
S. Mathys, L. Meile and C. Lacroix

### ***The Microfloras and Sensory Profiles of Selected Protected Designation of Origin Italian Cheeses***

Microbiology Spectrum, 2014; 2: 1-12  
G. Licitra and S. Carpino

Imagilin Technology, LLC is a biotechnology company located in Frederick, Maryland focusing on research and development of our patented, plant-based probiotic technology and product lines. Since 2003, Imagilin Technology, LLC has introduced innovative and extensively researched *Pediococcus acidilactici* probiotics for humans and animals to support immune and digestive health.

