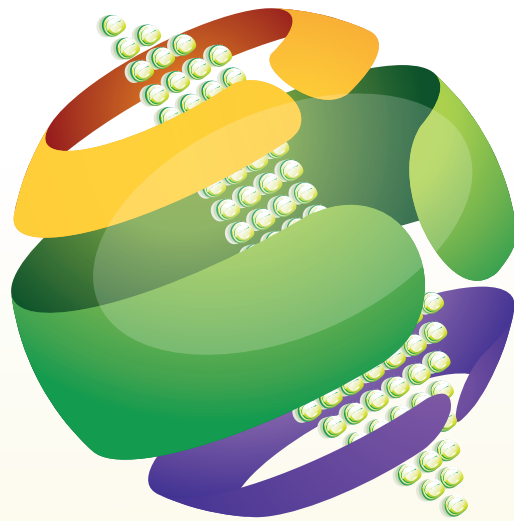




# Healthy Gut Healthy Life



**The Science Behind Why  
You Feel The Way You Do**









# The Widespread Consequences of Leaky Gut Syndrome

This part of the discussion reveals an often-overlooked cause and effect of much of the chronic disease that plagues mankind. When an unauthorized substance enters the body through a leaky gut barrier, that substance is called an antigen. An antigen could be a virus, bacteria, fungus, intact food protein, chemical toxin, etc. Anything that is foreign in the body and that does not support health and vitality can be defined as an antigen. Antigens are able to enter the bloodstream from one of two ways: through the skin, or the mucus membranes from mouth to anus, as both portals of entry are technically outside the body. These two portals of entry are the only way antigens (harmful, foreign substances) can enter the body. The digestive tract, by the way, has a surface area so large that if it were stretched out flat it would cover an entire tennis court!

Recall that you are designed with approximately 70% of the immune system around your gut, because that is how most antigens enter the body and penetrate into the blood stream. Therefore, a healthy gut barrier is vital to overall health.

In order to illustrate just how important the gut barrier is, let's imagine a screen in the window of your home; it has thousands of tiny little squares allowing entry of only the smallest particles into your home. Much in the same way, a healthy intestinal lining allows only the smallest digested particles into the body, such as vitamins and minerals.

Now let's imagine the window screens in your home are constructed like a chain linked fence with much larger holes than a traditional screen. This would allow much larger invaders like bugs, birds, snakes, spiders, squirrels, etc, into your home. Once these intruders enter your living space you would protect your property and defend your home from these foreign invaders and chase them out of your house with a broom. Similarly, when your intestinal lining is not healthy and you have "leaky gut," large particles (antigens) will enter your body and bloodstream. Similar to you chasing critters out of your house with a broom, your body has little guards called white blood cells that recognize the big particles (antigens) as something foreign to the body. The white blood cells respond by sounding the alarm and reporting to all their warrior friends what the foreign invaders look like so the warrior cells (called, Killer Cells) can work together to eliminate the antigens. The white bloods cells scan the antigens for its "finger print," so- to-speak. Or to put another way, it could be compared to scanning a barcode on a product at your grocery store that identifies the specific product you wish to purchase. When the white blood cell guardians scan an antigen, they tell the immune cells to attack anything that looks like that bar code. While this is a vitally important function of the immune system, leaky gut syndrome can cause this system to become confused and begin attacking the healthy tissues of the body. This is called, autoimmune disease.

In general, autoimmune diseases work like this: If the intestinal lining is leaky and allows large particles to enter into circulation, the white blood cells will respond<sup>4</sup> by scanning the foreigner. Let's imagine, for example, that the foreign substance is an intact food protein. Intact proteins are not supposed to be allowed into blood circulation under normal circumstances. Proteins are supposed to be broken down into individual amino acids before they are allowed to enter systemic circulation. But if the gut barrier is leaky, intact proteins can get passed the barrier before they are properly broken down. Therefore, based on your genetics, if there happens to be proteins in the thyroid tissue that have a similar structure and shape as the intact food protein that the body has scanned as an invader, the immune system will then confuse the two and begin attacking the proteins in the thyroid as well. This is one mechanism that can cause the autoimmune thyroid condition, Hashimoto's Thyroiditis. Similarly, if the invaders look like the nerve tissues it could lead to an attack on the nerves, leading to Multiple Sclerosis. And the exact same process also leads to Rheumatoid Arthritis, if the antigen looks similar to your joints, and a number of other autoimmune diseases.



Are you beginning to understand how this works? When the immune system sends the warriors out to destroy the invaders (antigens), if those invaders look similar to your own tissues, your body may begin to attack itself.

Approximately, 50 million Americans suffer from some type of autoimmune disease.<sup>7</sup> This is the number one condition that plagues Americans. Even though more people die from heart disease and cancer, interestingly, research is indicating that leaky gut may contribute to cancer and heart disease. Autoimmune diseases are the third leading cause of morbidity (rate of disease) and mortality (death rate of disease) in the industrialized world<sup>8</sup>, just behind heart disease and cancer respectively. Because of the often-overlooked connection between the gut and diseases of all sorts, a healthy intestinal lining could prevent and perhaps even cure much of the chronic diseases that have plagued modern man. Perhaps Hippocrates was correct: "All disease begins in the gut!"

However, leaky gut does not stop at autoimmune disease; it has been linked to multi-organ system failure, and systemic (whole body) disease and immune dysfunction.<sup>9</sup> It has also been associated with a number of inflammatory conditions such as asthma, eczema, psoriasis, and Crohn's disease.<sup>10</sup>

As you can see, an unhealthy intestinal system with leaky gut may lead to a number of horrible conditions.



## Keeping the Gut Barrier Healthy

At this point you may be asking yourself, "How does one prevent the break down of the intestinal lining, leading towards leaky gut allowing bad things to enter into my body?"

**Here are three key action steps to keep the gut barrier healthy:**

1. Ensure proper digestion of key nutrients that the intestinal cells need to function properly.
2. Eliminate toxins ("Franken-Foods") from the gastrointestinal tract.
3. Maintain the ideal ratio of 85% "good bacteria" (known as probiotics and/or intestinal microflora) to 15% "bad bacteria."<sup>11</sup>

***Maintaining your intestinal microflora is perhaps the single most important step you can take to protect your health.***

The term, "probiotic" is a compound word meaning, pro life. It refers to the trillions of healthful bacteria that line the intestinal tract and positively alter the intestinal microflora balance by inhibiting the growth of harmful bacteria, promoting good digestion, reducing toxins, and boosting immune function, which will increase resistance to infections. When you have flourishing colonies of probiotics you are better equipped to combat the development of many different chronic diseases, including obesity.<sup>12</sup>

Speaking of weight loss, nearly every study performed that analyzed the intestinal flora in an obese population found a greater occurrence of "bad" bacteria and lower levels of beneficial "good" bacteria.<sup>13</sup> There is even a study that found test subjects who received supplemental probiotics daily were able to reduce abdominal fat by almost 5 percent over a 12-week period, while the group that did not take a probiotic experienced no such positive changes.<sup>14</sup>

Ask yourself, "Am I as healthy as I want to be or can be?" If you said, "no", then it may be worth investigating your gut health in order to unlock the health potential of your entire body. Even symptoms that are minor and mild in nature, such as fatigue, could be related to gut health, since the digestive system is very complex and demands much energy to function. If the digestive system is strained, you will not feel vital and energetic.



**Signs that your intestinal dysfunction may be more advanced and that you may have an imbalance of healthy versus unhealthy bacteria, are as follows:**

- o Gas and bloating
- o Constipation and/or diarrhea
- o Sinus/Allergy issues
- o Unexplained muscle and joint pain
- o Fatigue
- o Headaches
- o Sugar cravings, especially for heavily refined carbohydrates
- o Unrelenting weight gain
- o Frequent illness
- o Depression
- o Sleep issues

Perhaps you are like the majority of the population, which is severely deficient in good bacteria. There are many reasons that may contribute to this problem, but many of them are lifestyle and environmental factors that can be easily controlled. **These include, but are not limited to:**

- o **Antibiotics:** Four out of five Americans are prescribed antibiotics every year, making antibiotics likely the number one cause of imbalance between “good” bacteria and “bad” bacteria, known as “dysbiosis.”<sup>15</sup> Dysbiosis occurs because antibiotics do not recognize “good” bacteria from “bad” bacteria. Thus, they kill all bacteria, including the good microflora that live in your gut. This can significantly decrease your healthy bacteria, which may lead to any number of numerous health consequences. Even if you do not take prescription antibiotics, they can still influence your health, as they are in products you ingest regularly, such as commercially raised meats and dairy, both of which tend to be laden with antibiotics. This alone can disrupt flora balance.
- o **NSAIDs:** Abusing non-steroidal anti-inflammatory drugs to alleviate pain such as Aspirin, Advil, Indomethacin, etc. inhibits growth of healthy probiotic bacteria, which can cause a bacterial imbalance in your intestines leading to leaky gut.
- o **Sweeteners:** Sweeteners of any kind, including artificial, alter the activity of the intestinal flora causing a disruption in the balance of good to bad bacteria.<sup>16</sup>
- o **Processed foods:** An overgrowth of fungus and yeast can be caused by a diet high in refined carbohydrates, thus leading to an overgrowth of the unhealthy bacteria, fungus, and yeast.<sup>17</sup>
- o **Agricultural chemicals and pesticides:** Nearly all commercially available fruits and vegetables are treated with pesticides and herbicides and are nearly impossible to avoid.

This short list of just five lifestyle factors is by no means exhaustive, but just these five are so prevalent in our culture that they are almost certainly impacting your health right now. Therefore, it is almost certain that your gut flora balance is affected and will continue to suffer unless you become proactive to correct it on a daily basis. In fact, many researchers and health providers suggest that supplementing with probiotics every day can be more important to your health than taking a daily multi-vitamin.





**But before you just go out to buy a probiotic product,  
there are some things you must know.**

## **Not all Probiotics are the Same**

Due to the extreme acidic environment of the stomach and the release of bile from the gallbladder, research indicates that anywhere from 80-99% of traditional unprotected live probiotic cells will be killed off before reaching the intestine.<sup>18</sup> In order for the good bacteria to provide their beneficial effects to you, they must be able to withstand processing conditions and also be viable in sufficient numbers during storage.<sup>19</sup> Traditional probiotic supplements will claim billions of active cells per dose on their labels, but they do not promise they are alive and well as they enter your intestines. Some companies claim to be superior with a process called, “microencapsulation,” that is supposed to shield the probiotics from the damaging effects of the stomach acid.

However, research indicates that none of these reported methods have resulted in shelf- stable, viable probiotics.<sup>20</sup> The bottom-line is that the most expensive supplement is the one that does not work, as it prevents you from receiving the vitally important health benefits that motivated you to purchase a probiotic product in the first place.

Fortunately, there is a solution, and the answer lies in an exclusive proprietary natural fermentation process. At Perfect Origins LLC, we have developed the most advanced and economical probiotic formula anywhere on earth, **PerfectBiotics**. This product is not about a label that claims billions upon billions of active and live bacteria that are dead before they reach the intestines. **PerfectBiotics** is about effectiveness, as it has been developed using a cutting-edge fermentation technology developed by Russian researchers to deliver stable and viable probiotic bacteria into your intestines.

Instead of putting billions of probiotic bacteria into a pill and hoping some organisms make it to the intestines alive, we at Perfect Origins focus on getting the organisms into the intestines safely and effectively. This exclusive proprietary process protects each live cell from the harsh bile and stomach acid. Similar to how a special coating process is used for many medications that prevent the drugs from being activated until they reach the small intestine, **PerfectBiotics** 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. Once the organisms in this product reach the intestines, they awaken from their state of hibernation and multiply in number, proliferating throughout the entire intestinal tract. This process dramatically enhances the survival and growth of bacteria over traditional probiotic supplements, since all other probiotic products rely on traditional encapsulation and not fermentation. Therefore, **PerfectBiotics** is the first and only probiotic product of its kind.

In addition to creating an industry-first in maximizing bacterial colonization in the gut, **Perfect Origins LLC** has pioneered the nutraceutical industry’s first fermented Toxin-Scavenging Lactobacillus. Our exclusive proprietary formula uses a unique, but naturally occurring fermentation process that allows natural and beneficial modifications to the bacterium’s cell wall. During this process the bacterium are trained by repetitive passages of increased doses of mixed toxins from mold (mycotoxins) and other toxic substances bound to “bad” bacterial cell walls, called endotoxins also known as Lipopolysaccharides (LPS), that are released when the bad bacterium ruptures or disintegrates. The strains ultimately selected for the Perfect Origins product thrive in a toxin-challenged environment, thus they inherently seek and destroy toxins. These effects are part of the Toxin-Scavenging Lactobacilli’s innate biological capacities. This exclusive proprietary process allows the Toxin-Scavenging Lactobacillus to easily effect the tiniest and hardest-to-reach spaces without affecting its functional capacity.

Perfect Origins LLC has included an extraordinary blend of **12 extremely unique probiotic strains** not contained in 99% of other products on the market. And, yes, a number of them are naturally resistant to stomach acid and bile. These 12 include: <sup>10</sup>

- o **Lactobacillus plantarum**  
L. plantarum may reduce growth and penetration of foreign bacteria (including LPS), viruses, funguses, and mold while providing protection to the nervous system from mold toxins.<sup>21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36</sup>
- o **Lactobacillus rhamnosus**  
Resistant to gastric acid and bile, L. rhamnosus strongly adheres to the intestinal wall, which may be important for competition with unhealthy bacteria, stimulation of mucous production, and the possible modulation of the immune system. It protects and maintains the intestinal barrier, and may inhibit growth of intestinal pathogens such as molds and fungus. It could down-regulate inflammatory responses and may be beneficial in cases of acute infectious diarrhea in children. L. rhamnosus could provide adjuvant therapy for H. pylori treatment (H. pylori is a bacteria associated with ulcers). It could also help manage some symptoms of irritable bowel syndrome.<sup>37,38,39,40,41,42,43,44,45,46,47,48,49,50</sup>
- o **Bifidobacterium bifidum**  
This bacterium is the predominant species in the intestinal tract of breast-fed newborns. It competes with pathogens for adhesion to the intestinal cells, and may beneficially modulate the immune system. It may strongly down-regulate inflammatory responses. Bifidobacteria have also been shown to help in the management of chronic constipation and allergy symptoms. It enhances nutrient absorption, particularly B-vitamin absorption, and optimizes digestion, maintaining a healthy balance in the colon.<sup>51,52,53,54</sup>
- o **Bifidobacterium infantis**  
This species of bacteria has been the focus of research pertaining to the treatment of acute infectious diarrhea in children. It may help with some symptoms of irritable bowel syndrome, as it has shown resistance against various pathogens such Salmonella, and may provide benefit in protection against gastroenteritis.<sup>55,56,57</sup>
- o **Bifidobacterium longum**  
This bacterium is known for its ability to support gut health, decreasing gut inflammation, and supporting immune health. Resistant to stomach acid and bile, B. longum binds to human intestinal mucus, preventing entrance of unwanted substances into the body. According to scientists, Bifidobacterium longum is among the first colonizers of the sterile digestive tract of newborns and dominates in breast-fed infants. It inhibits growth of intestinal toxic bacteria, and may strongly down-regulate inflammatory responses. It has also been used successfully in clinical trials on the prevention of relapse in ulcerative colitis patients. Additionally, it produces important B vitamins, providing benefits to the cardiovascular system. It may also be useful in the reestablishment of healthy vaginal flora.<sup>58,59,60,61,62,63</sup>
- o **Enerococcus faedum**  
This beneficial bacteria is effective at relieving diarrhea from acute infections in the gastrointestinal tract or diarrhea caused by inflammation in the gastrointestinal tract.<sup>64, 65</sup>
- o **Lactobacillus acidophilus**  
Beneficial in negating the toxic effect and growth of mold, yeast (Candida), and parasites, this species of bacteria is has also been used as an adjuvant treatment during chemotherapy and proves beneficial in the treatment of acute infectious diarrhea in children.<sup>66,67,68,69,70,71</sup>

- o **Lactobacillus casei**  
Lactobacillus casei has been shown to help manage chronic constipation,<sup>72</sup> is also advantageous in managing lactose intolerance, and may support the immune system.<sup>73</sup> It could be used as an adjuvant treatment during chemotherapy,<sup>74</sup> and may also help with diarrhea associated with antibiotic use and various bacterial infections.<sup>75,76</sup>
- o **Lactobacillus helveticus**  
L. helveticus is resistant to gastric acid and bile. It strongly adheres to intestinal cells, which helps to maintain the integrity of the intestinal barrier. Some of its many potential health benefits include the inhibition of potential pathogens, supporting healthy blood pressure, and beneficial modulation of the immune system. It may help in improving symptoms of lactose intolerance and helping to prevent and reduce the duration of diarrhea. It has been shown to enhance the bioavailability of nutrients, remove allergens and other undesired molecules from food, and aid in protein digestion.<sup>77,78,79,80</sup>
- o **Lactobacillus salivarius**  
Known for its oral health benefits, L. salivarius has been shown to dramatically decrease the level of plaque forming bacteria in the mouth while naturally freshening breath and reducing gum sensitivity. Additionally, it may inhibit the growth of H. Pylori in the digestive system.<sup>81,82</sup>
- o **Pediococcus acidilactici**  
Very resistant to destruction by stomach acids, animal research has shown that P. acidilactici is able to balance the intestinal balance of bacteria and thus strengthen overall health. Current research indicates that P. acidilactici is able to promote a healthy inflammatory response in the intestines, as well as support a healthy immune response. P. acidilactici produces several compounds that reduce the number of unhealthy bacteria and parasites. Specifically, it is known to prevent the occupation of the small intestine by unhealthy bacteria like Salmonella and E. coli. Additionally, research indicates a potential supportive role in patients with Multiple Sclerosis.<sup>83,84,85,86,87,88</sup>
- o **Streptococcus thermophilus**  
This stomach acid and bile resistant bacteria beneficially modulates the immune system and competes against unhealthy bacteria. Additionally, S. thermophilus may reduce the frequency of colic in infants and may benefit those with lactose intolerance.<sup>89,90,91,92</sup>

Obviously, **PerfectBiotics** is not an ordinary probiotic. Based on scientific research, university studies, and field trials, this product has been shown to provide a plethora of health benefits, a summary of which include:

1. Support of the natural growth of beneficial bacteria in the gut to further improve the ratio of healthy probiotic bacteria to unhealthy pathogenic bacteria. A private study at the University of Wisconsin revealed a six-fold increase in the colonization of Lactobacilli throughout the whole intestine.
2. Enhancement of the natural detoxification process by up-regulating key regulatory mechanisms in the body that normally prevent toxin entry into the body. The probiotic bacteria are trained to intercept and destroy toxins in the intestinal wall lining. In addition to the toxic-scavenging effect, the bacterium also binds up toxins to be excreted in the feces.
3. Modulation of the immune function by down-regulating inflammatory responses and up-regulating antigen recognition and antibody production.
4. Inhibition of the growth of unhealthy bacteria, as the acid producing capabilities of the probiotic bacteria are enhanced. This enhanced acid production in the gastrointestinal tract suppresses the growth of organisms in the gut such as Salmonella, E. coli, etc.
5. Improvement of digestion, enhancement in the bioavailability of nutrients, and reduction of dairy intolerance.
6. Support of the regeneration of cells in the gut lining, and protection of the gut lining, showing promise in the support of conditions associated with Leaky Gut Syndrome.



**PerfectBiotics** is manufactured to be allergen-free; it contains no wheat, gluten, soybeans, egg, fish/shellfish, or peanuts or tree nuts.

**PerfectBiotics** has been reported by users to help and assist in the management of the following conditions and symptoms:

**Sinus symptoms**

- o Congestion
- o Nasal dripping
- o Allergic reactions

**GI tract disturbances**

- o Bloating
- o Ulcers
- o Pain, cramping, and inflammation
- o Constipation
- o Intestinal Permeability (Leaky Gut)

**Genitourinary (reproductive organs and urinary system):**

- o Vaginal yeast infections
- o Urinary tract infections

**Inflammation**

- o General
- o Localized to a specific area

**Autoimmune conditions**

- o All types

**Skin conditions**

- o All types



## You have nothing to lose!

Because there are no specified standards of quality, effectiveness, or safety by the FDA when it comes to probiotic products, many products on the market provide little, if any, health benefits. In fact, a report by the Journal of the American Medical Association on 60 commercially available probiotic products showed that most of them did not even meet label claim. Through an exclusive proprietary process, however, **PerfectBiotics** delivers powerful live bacteria to the gut.

**PerfectBiotics** is perhaps the most *unique* and *effective* probiotic on the market because it is in a class of its own. No other probiotic manufacturer has mastered the technology currently being utilized by **Perfect Origins LLC**, and those who have tried to replicate it have failed.

## References

1. Gershon MD. *The Second Brain: A Groundbreaking New Understanding of Nervous Disorders of the Stomach and Intestine*. Haper Collins, NY, 1998
2. Mulak A, Bonza B. Irritable Bowel syndrome: a model of the brain-gut interactions. *Med Sci Monti*. 2004;10(4):RA55-RA62.
3. Sult MD. *Textbook of Functional Medicine: Digestive, Absorptive, and Microbiological Imbalances*, Chapter 24, pg330-331
4. Brandtzaeg P. Current understanding of gastrointestinal immuno-regulation and its relation to food allergy. *Ann NY Acad Sci*. 2002;964:13-45
5. Björkstén B, Sepp E, Julge K, Voor T, Mikelsaar M (October 2001). "Allergy development and the intestinal microflora during the first year of life". *J. Allergy Clin. Immunol*. 108 (4): 516–20.  
· Guarner F, Malagelada JR (2003). "Gut flora in health and disease". *Lancet* 361 (9356): 512–9. · Sears CL (October 2005). "A dynamic partnership: celebrating our gut flora". *Anaerobe* 11 (5): 247–51. · Steinhoff U (June 2005). "Who controls the crowd? New findings and old questions about the intestinal microflora". *Immunol. Lett*. 99 (1): 12–
6. Salminen S, Bouley C, Boutron-Ruault MC, et al. Functional food science and gastrointestinal physiology and function. *Br J Nutr*. 1998;80:S147-S71
7. Tobias, L., *A Briefing Report on Autoimmune Diseases and AARDA: Past, Present, and Future*, 2010
8. Arnsen, Y. Amital, H., and Shoenfeld, Y. 2005. Vitamin D and Autoimmunity: New aetiological and therapeutic considerations, *J of Immunology* 175: 4119-26
9. DeMeo MT, Mutlu EA, Keshavarzian A, Tobin MC. Intestinal permeation and gastrointestinal disease. *J Clin Gastroenterol*. 2002;34:385-96
10. Cookson W. The immunogenetics of asthma and eczema: a new focus on the epithelium. *Nat Rev Immunol*. 2004;4:978-88
11. Tannis, Allison. *Probiotic Rescue: How you can use probiotics to fight cholesterol, cancer, superbugs, digestive complaints, and more*. John Wiley & Sons Canada, Ltd. 2008 pg. 11
12. Jean-Pierre Hugot. Inflammatory bowel disease: a complex group of genetic disorders; *Best Practice & Research Clinical Gastroenterology*, Volume 18, Issue 3, Pages 451-462, June 2004  
· A Venket Rao, Alison C Bested, Tracey M Beaulne, Martin A Katzman, Christina Iorio5, John M Berardi6 and Alan C Logan. A randomized, double-blind, placebo-controlled pilot study of a probiotic in emotional symptoms of chronic fatigue syndrome; *Gut Pathogens* 2009, 1:6 · Huey-Shi Lye, Chiu-Yin Kuan, Joo-Ann Ewe, Wai-Yee Fung and Min-Tze Liong. The Improvement of Hypertension by Probiotics: Effects on Cholesterol, Diabetes, Renin, and Phytoestrogens; *Int. J. Mol. Sci.* 2009, 10, 3755-3775. · Gregory J. Leyer, PhDa, Shuguang Li, MSb, Mohamed E. Mubasher, PhDc, Cheryl Reifer, PhDd, Arthur C. Ouwehand, PhD. Probiotic Effects on Cold and Influenza-Like Symptom Incidence and Duration in Children; *Pediatrics* 2009;124:e172. · Silvia Wilson Gratz, Hannu Mykkanen, and Hani S El-Nezami. Probiotics and gut health: A special focus on liver diseases; *World J Gastroenterol*. 2010 January 28; 16(4): 403–410. · Whitney P Bowe, Alan C Logan. Acne vulgaris, probiotics and the gut-brain-skin axis - back to the future? *Gut Pathogens* 2011, 3:1. · Åsa Sullivan, Carl E Nord and Birgitta Evengård. Effect of supplement with lactic-acid producing bacteria on fatigue and physical activity in patients with chronic fatigue syndrome; *Nutrition Journal* 2009, 8:4. · Majamaa H, Isolauri E. Probiotics: a novel approach in the management of food allergy; *J Allergy Clin Immunol*. 1997 Feb;99(2):179-85. · Cani PD, Delzenne NM. Involvement of the gut microbiota in the development of low grade inflammation associated with obesity: focus on this neglected partner; *Acta Gastroenterol Belg*. 2010 Apr- Jun;73(2):267-9. · DiBaise JK, Zhang H, Crowell MD, Krajmalnik-Brown R, Decker GA, Rittmann BE. Gut microbiota and its possible relationship with obesity. *Mayo Clin Proc*. 2008 Apr;83(4):460-9. · Kadooka Y, Sato M, Imaizumi K, Ogawa A, Ikuyama K, Akai Y, Okano M, Kagoshima M, Tsuchida T. Regulation of abdominal adiposity by probiotics (*Lactobacillus gasseri* SBT2055) in adults with obese tendencies in a randomized controlled trial; *Eur J Clin Nutr*. 2010 Jun;64(6):636-43.
13. DiBaise JK, Zhang H, Crowell MD, Krajmalnik-Brown R, Decker GA, Rittmann BE. Gut microbiota and its possible relationship with obesity. *Mayo Clin Proc*. 2008 Apr;83(4):460-9.
14. Kadooka Y, Sato M, Imaizumi K, Ogawa A, Ikuyama K, Akai Y, Okano M, Kagoshima M, Tsuchida T. Regulation of abdominal adiposity by probiotics (*Lactobacillus gasseri* SBT2055) in adults with obese tendencies in a randomized controlled trial; *Eur J Clin Nutr*. 2010 Jun;64(6):636-43.
15. Lauri Hicks, D.O., Len Horovitz, M.D., U.S. Outpatient Antibiotic Prescribing, 2010 *New England Journal of Medicine* 2013; 368:1461-1462
16. Payne, A. N., Chassard, C. and Lacroix, C. (2012), Gut microbial adaptation to dietary consumption of fructose, artificial sweeteners and sugar alcohols: implications for host–microbe interactions contributing to obesity. *Obesity Reviews*, 13: 799–809. doi: 10.1111/j.1467-789X.2012.01009.x
17. W Kruis, G Forstmaier, C Scheurle, F Stellaard. Effect of diets low and high in refined sugars on gut transit, bile acid metabolism, and bacterial fermentation; *Gut*, 1991, 32, 367-371
18. Cook MT, Tzortzis G, Charalampopoulos D, Khutoryanskiy VV. Microencapsulation of probiotics for gastrointestinal delivery. *J Control Release*. 2012 Aug 20;162(1):56-67.
19. Del Piano M, Morelli L, Strozzi GP, Allesina S, Barba M, Deidda F, Lorenzini P, Ballaré M, Montino F, Orsello M, Sartori M, Garello E, Carmagnola S, Pagliarulo M, Capurso L. Probiotics: from research to consumer; *Dig Liver Dis*. 2006 Dec;38 Suppl 2:S248-55.

20. Kailasapathy K. Microencapsulation of probiotic bacteria: technology and potential applications. *Curr Issues Intest Microbiol.* 2002 Sep;3(2):39-48.
21. B. Klarin et al., "Adhesion of the Probiotic Bacterium *Lactobacillus plantarum* 299v onto the Gut Mucosa in Critically Ill Patients: A Randomized Open Trial," *Crit. Care* 9 (3), R285–293 (2005). P. Mangell et al., "Lactobacillus plantarum 299v Inhibits *Escherichia coli*-Induced Intestinal Permeability," *Dig. Dis. Sci.* 47 (3), 511–516 (2002).
22. D.R. Mack et al., "Probiotics Inhibit Enteropathogenic *E. Coli* Adherence in vitro by Inducing Intestinal Mucin Gene Expression," *Am. J. Physiol.* 276, G941–G950 (1999).
23. J. Levy, "The Effects of Antibiotic Use on Gastrointestinal Function," *Am. J. Gastroenterol.* 95, S8–S10 (2000). M. Percival, "Choosing A Probiotic Supplement," *Clin. Nutr. Insights* 6, 1–4 (1997). Y. Aiba et al., "Lactic Acid-Mediated Suppression of *Helicobacter pylori* by the Oral Administration of *Lactobacillus salivarius* as a Probiotic in a Gnotobiotic Murine Model," *Am. J. Gastroenterol.* 93, 2097–2101 (1998). P. Gionchetti et al., "Oral Bacteriotherapy as Maintenance Treatment in Patients with Chronic Pouchitis: A Double-Blind, Placebo-Controlled Trial," *Gastroenterol.* 119, 305–309 (2000).
24. J.A. Drisko, C.K. Giles and B.J. Bischoff, "Probiotics in Health Maintenance and Disease Prevention," *Altern. Med. Rev.* 8 (2), 143–155 (2003).
25. S. Michail and F. Abernathy, "Lactobacillus plantarum Reduces the in vitro Secretory Response of Intestinal Epithelial Cells to Enteropathogenic *Escherichia coli* Infection," *J. Pediatr. Gastroenterol. Nutr.* 35 (3), 350–355 (2002).
26. Dalie D.K.D., Deschamps A.M., Richard-Forget F. Lactic acid bacteria - Potential for control of mould growth and mycotoxins: A review (2010) *Food Control*, 21 (4), pp. 370-380.
27. Niku-Paavola, M. L, Laitila, A, Mattila-Sandholm, T., & Haikara, A (1999). New Types of antimicrobial compounds produced by *Lactobacillus plantarum*. *Journal of Applied Microbiology*, 86, 29-35.
28. Lavermicocca, P., Valerio, F., & Visconti, A. (2003). Antifungal activity of phenyllactic acid against molds isolated from bakery products. *Applied and Environmental Microbiology*, 69, 634-640
29. Strom, K., Schnurer, J., & Melin, P. (2005) Co-cultivation of antifungal *Lactobacillus plantarum* MiLAB 393 and *Aspergillus nidulans*, evaluation of effects on fungal growth and protein expression. *FEMS Microbiology Letters*, 246 119-124. Strom, K. Sjogren, J., Broberg, A & Schnurer, J. (2002). *Lactobacillus plantarum* MiLAB 393 produces the antifungal cyclic dipeptides cyclo (L-Phe-Pro) and cyclo (L-Phe-trans-4-OH-L-Pro) and phenyllactic acid. *Applied and Environmental Microbiology*, 68, 4322-4327
30. Piotrowska, M., & Zakowska, Z. (2005). The limitation of ochratoxin A by lactic acid bacteria strains. *Polish Journal of Microbiology*, 54, 279–286.
31. Pfohl-Leszkwicz A, Manderville RA (2007). "Ochratoxin A: An overview on toxicity and carcinogenicity in animals and humans". *Mol Nutr Food Res* 51 (1): 61–99.
32. Blesa J, et al. (2006). "Factors affecting the presence of ochratoxin A in wines". *Critical reviews in food science and nutrition* 46 (6): 473–8
33. O'Brien E, Dietrich DR (2005). "Ochratoxin A: the continuing enigma". *Crit. Rev. Toxicol.*
34. (1): 33– 60. 34 Palma N, et al. (2007). "Ochratoxin A-Induced Mutagenesis in Mammalian Cells Is Consistent with the Production of Oxidative Stress". *Chemical Research in Toxicology* 20 (7): 1031–1037
35. Belmadani A., et al (1999). "Selective toxicity of ochratoxin A in primary cultures from different brain regions". *Arch Toxicol* 73 (2): 108–114.
36. Sava V., et al. (2006). "Acute neurotoxic effects of the fungal metabolite ochratoxin A". *Neurotoxicology* 27 (1): 82–92.
37. Dalie D.K.D., Deschamps A.M., Richard-Forget F. Lactic acid bacteria - Potential for control of mould growth and mycotoxins: A review (2010) *Food Control*, 21 (4) , pp. 370-380.
38. Haskard, C., El-Nezami, G. S., Kankaanpaa, P.E., Salminen, S., & Ahokas, J.T. (1998) Sequestration of Aflatoxin B1 by probiotic strains: Binding capacity and localization. *Revue de Medecine Veterinaire*, 149,571
39. *Advancing Medicine with Food and Nutrients* 2nd Ed. Pg 839-40
40. El-Nezami, H. S., Chrevatidis, A., Auriola, S., Salminen, S., & Mykkänen, H. (2002c). Removal of common *Fusarium* toxins in vitro by strains of *Lactobacillus* and *Propionibacterium*. *Food Additives and Contaminants*, 19, 680–686.
41. *International Journal of Molecular Science*, 2009. 10(1): p. 1-17
42. *Advancing Medicine with Food and Nutrients* 2nd Ed. Pg 830
43. *Medical Mycology* 2010. 56: p. 282-294, *Toxicology and Applied Pharmacology*, 2008. 228(1): p. 84-92
44. *Advancing Medicine with Food and Nutrients* 2nd Ed. Pg 834

45. El-Nezami, H. S., Polychronaki, N., Salminen, S., & Mykkänen, H. (2002a). Binding rather metabolism may explain the interaction of two food-grade Lactobacillus strains with zearalenone and its derivative  $\alpha$ -zearalenol. *Applied and Environmental Microbiology*, 68, 3545–3549.
46. Piotrowska, M., & Zakowska, Z. (2005). The limitation of ochratoxin A by lactic acid bacteria strains. *Polish Journal of Microbiology*, 54, 279–286.
47. Kuiper-Goodman, T.; Scott, P. M.; Watanabe, H. (1987). "Risk Assessment of the Mycotoxin Zearalenone". *Regulatory Toxicology and Pharmacology* 7 (3): 253–306.
48. Allen SJ, Okoko B, Martinez E, Gregorio G, Dans LF. Probiotics for treating infectious diarrhoea. *Cochrane Database Syst Rev* 2004;(2):CD003048.
49. Tong JL, Ran ZH, Shen J, Zhang CX, Xiao SD. Meta-analysis: the effect of supplementation with probiotics on eradication rates and adverse events during Helicobacter pylori eradication therapy. *Aliment Pharmacol Ther* 2007;25:155–68.
50. Gawronska A, Dziechciarz P, Horvath A, Szajewska H. A randomized double-blind placebo-controlled trial of Lactobacillus GG for abdominal pain disorders in children. *Aliment Pharmacol Ther* 2007; 25: 177– 84.
51. Yoshinori HAMAJI, Minoru FUJIMORI, Takayuki SASAKI, Hitomi MATSUHASHI, Keiichi MATSUI-SEKI, Yuko SHIMATANI-SHIBATA, Yasunobu KANO, Jun AMANO and Shun'ichiro TANIGUCHI, "Strong Enhancement of Recombinant Cytosine Deaminase Activity in Bifidobacterium longum for Tumor-Targeting Enzyme/Prodrug Therapy", *Biosci. Biotechnol. Biochem.*, Vol. 71, 874-883 (2007).
52. Xiao, JZ et al. "Clinical Efficacy of Probiotic Bifidobacterium longum for the Treatment of Symptoms of Japanese Cedar Pollen Allergy in Subjects Evaluated in an Environmental Exposure Unit". *Allergology International*. Published March 2007.
53. Ohno Hiroshi, Tsunemine Satoru, Isa Yasuhiro, Shimakawa Masaki, Yamamuru Hideki. Oral Administration Bifidobacterium bifidum G9-1 Suppresses Total and Antigen Specific Immunoglobulin E Production in Mice. *Biological and Pharmaceutical Bulletin* 28(8)pp.1462-1466 20050801
54. Amenta, Michele et al. "Diet and chronic constipation. Benefits of oral supplementation with symbiotic zir fos (Bifidobacterium longum W11 + FOS Actilight)". *Acta Biomed*. Published December 2006.
55. Allen SJ, Okoko B, Martinez E, Gregorio G, Dans LF. Probiotics for treating infectious diarrhoea. *Cochrane Database Syst Rev* 2004;(2):CD003048.
56. O'Mahony L, McCarthy J, Kelly P, et al. Lactobacillus and Bifidobacterium in irritable bowel syndrome: symptom responses and relationship to cytokine profiles. *Gastroenterology* 2005; 128:541–51.
57. Gibson GR, Wang X. Regulatory effects of bifidobacteria on the growth of other colonic bacteria. *J Appl Bacteriol*. 1994 Oct;77(4):412-20.
58. Sánchez B, Champomier-Vergès MC, Collado Mdel C, Anglade P, Baraige F, Sanz Y, de los Reyes-Gavilán CG, Margolles A, Zagorec M. Low-pH adaptation and the acid tolerance response of Bifidobacterium longum biotype longum. *Appl Environ Microbiol*. 2007 Oct;73(20):6450-9.
59. He F, Ouwehan AC, Hashimoto H, Isolauri E, Benno Y, Salminen S. Adhesion of Bifidobacterium spp. to human intestinal mucus. *Microbiol Immunol*. 2001;45(3):259-62.
60. Biasucci G, Rubini M, Riboni S, Morelli L, Bessi E, Retetangos C. Mode of delivery affects the bacterial community in the newborn gut. *Early Hum Dev*. 2010 Jul;86 Suppl 1:13-5.
61. Ishibashi N, Yamazaki S. Probiotics and safety. *Am J Clin Nutr*. 2001 Feb;73(2 Suppl):465S-470S.
62. Taki K, Takayama F, Niwa T. Beneficial effects of Bifidobacteria in a gastroresistant seamless capsule on hyperhomocysteinemia in hemodialysis patients. *J Ren Nutr*. 2005 Jan;15(1):77-80.
63. Korshunov VM, Gudieva ZA, Efimov BA, Pikina AP, Smeianov VV, Reid G, Korshunova OV, Tiutiunnik VL, Stepin II. [The vaginal Bifidobacterium flora in women of reproductive age]. *Zh Mikrobiol Epidemiol Immunobiol*. 1999 Jul-Aug;(4):74-8.
64. Allen SJ, Okoko B, Martinez E, Gregorio G, Dans LF. Probiotics for treating infectious diarrhoea. *Cochrane Database Syst Rev* 2004;(2):CD003048.
65. Marteau, P.R., Vrese, M., Cellier, C.J. and Schrezenmeir, J. (2001). Protection from gastrointestinal diseases with the use of probiotics. *Am J Clin Nutr*, 73: 430-436.
66. Piotrowska, M., & Zakowska, Z. (2005). The limitation of ochratoxin A by lactic acid bacteria strains. *Polish Journal of Microbiology*, 54, 279–286.
67. "Lactobacillus Acidophilus." University of Maryland Medical Center. <http://www.umm.edu/altmed/articles/lactobacillus-acidophilus-000310.htm>.
68. Fitzsimmons N, Berry DR. Inhibition of Candida albicans by Lactobacillus acidophilus: evidence for the involvement of a peroxidase system. *Microbios* 1994;80:125–33.



69. Hilton E, Isenberg HD, Alperstein P, et al. Ingestion of yogurt containing *Lactobacillus acidophilus* as prophylaxis for candidal vaginitis. *Ann Intern Med* 1992;116:353–7.
70. Millette, M. et al. 2010. Probiotic *Lactobacillus acidophilus* and *L. casei* mix sensitize colorectal tumoral cells to 5-fluorouracil-induced apoptosis. *Nutrition and Cancer*. 62(3):371-8.
71. Allen SJ, Okoko B, Martinez E, Gregorio G, Dans LF. Probiotics for treating infectious diarrhoea. *Cochrane Database Syst Rev* 2004;(2):CD003048.
72. Koebnick C, Wagner I, Leitzmann P, Stern U, Zunft HJF. Probiotic beverage containing *Lactobacillus casei* Shirota improves gastrointestinal symptoms in patients with chronic constipation. *Can J Gastroenterol* 2003;17:655-9.
73. *Lactobacillus Casei*, published by Citizendium, The Citizens' Compendium, 2009.
74. Millette, M. et al. 2010. Probiotic *Lactobacillus acidophilus* and *L. casei* mix sensitize colorectal tumoral cells to 5-fluorouracil-induced apoptosis. *Nutrition and Cancer*. 62(3):371-8.
75. Plummer S, Weaver MA, Harris JC, et al. *Clostridium difficile* pilot study: effects of probiotic supplementation on the incidence of *Clostridium difficile* diarrhoea. *Int Microbiol* 2004;7:59–62.
76. Sýkora J, Valecková K, Amlerová J, et al. Effects of a specially designed fermented milk product containing probiotic *Lactobacillus casei* DN-114 001 and the eradication of *H. pylori* in children: a prospective randomized double-blind study. *J Clin Gastroenterol* 2005;39:692–8.
77. Probiotic Strains. Published on Innovative Ingredients for Innovative Foods, Lal'Food-Institute Rosell. 2009.
78. *Lactobacillus Helveticus*. Published by Wellness Advocate, Wellness Advocate & Wellness Advantage. 2007.
79. averniti V and Guglielmetti S (2012) Health-promoting properties of *Lactobacillus helveticus*. *Front. Microbio.* 3:392. doi: 10.3389/fmicb.2012.00392
80. averniti V and Guglielmetti S (2012) Health-promoting properties of *Lactobacillus helveticus*. *Front. Microbio.* 3:392. doi: 10.3389/fmicb.2012.00392
81. Mayanagi G, Kimura M, Nakaya S, Hirata H, Sakamoto M, Benno Y, Shimauchi H. Probiotic effects of orally administered *Lactobacillus salivarius* WB21-containing tablets on periodontopathic bacteria: a double-blinded, placebo-controlled, randomized clinical trial; *J Clin Periodontol*. 2009 Jun;36(6):506-13. Epub 2009 Apr 22. Iwamoto T, Suzuki N, Tanabe K, Takeshita T, Hirofuji T. Effects of probiotic *Lactobacillus salivarius* WB21 on halitosis and oral health: an open-label pilot trial; *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2010 Aug;110(2):201-8.
82. Ryan KA, Daly P, Li Y, Hooton C, O'Toole PW. Strain-specific inhibition of *Helicobacter pylori* by *Lactobacillus salivarius* and other lactobacilli. *J Antimicrob Chemother*. 2008 Apr;61(4):831-4.
83. Dalie D.K.D., Deschamps A.M., Richard-Forget F. Lactic acid bacteria - Potential for control of mould growth and mycotoxins: A review (2010) *Food Control*, 21 (4) , pp. 370-380.
84. Mandal, V., Sen, S. K, & Mandal N.C. (2007) Detection, isolation and partial characterization of antifungal compound 9s0 produced by *Pediococcus acidilactici* LAB5. *Natural Product Communications*, 2, 671-674
85. Lee SH, Lillehoj HS, Park DW, Hong YH, and Lin JJ. 2007. Effects of *Pediococcus* –and *Saccharomyces* -based probiotic (MitoMax) on coccidiosis in broiler chickens. *Comparative Immuno Microbiol & Infectious disease*. 30:261-268
86. Dalloul R.A., Lillehoj H.S, Lee J.S., Lee S.H., Chung K.S. 2006. Immunopotentiating effect of a *Fomitella fraxinea* – derived lectin on chicken immunity and resistance to coccidiosis. *Poult. Sci.* 85: 446S- 451S
87. Takata K, Kinoshita M, Okuno T, Moriya M, Kohda T, et al. (2011) The Lactic Acid Bacterium *Pediococcus acidilactici* Suppresses Autoimmune Encephalomyelitis by Inducing IL-10-Producing Regulatory T Cells. *PLoS ONE* 6(11): e27644.
88. *Current Trends in Biotechnology and Pharmacy* Vol. 6 (1) 1-14 January 2012, ISSN 0973-8916 (Print), 2230-7303
89. Saavedra JM, Abi-Hanna A, Moore N, Yolken RH. Long-term consumption of infant formulas containing live probiotic bacteria: tolerance and safety. *Am J Clin Nutr* 2004;79:261–7.
90. Hatice Boke, Belma Aslim, and Gulcin Alp, The Role of Resistance to bile salts and acid tolerance of Exopolysaccharideis (EPSS) produced by yogurt starter bacteria. *Arch. Biol. Sci., Belgrade*, 62 (2), 323- 328, 2010
91. Drouault, S ; Anba, J ; Corthier, G, *Streptococcus thermophilus* is able to produce a beta-galactosidase active during its transit in the digestive tract of germ-free mice. *APPLIED AND ENVIRONMENTAL MICROBIOLOGY* Volume: 68 Issue: 2 Pages: 938-941
92. Sheil B, Shanahan F, O'Mahony L. Probiotic effects on inflammatory bowel disease. *J Nutr*. 2007 Mar;137(3 Suppl 2):819S-245.



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