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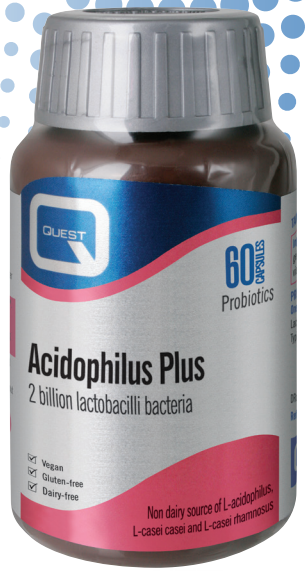
ESSENTIALS

ACIDOPHILUS PLUS

A probiotic formula to support good digestive, gut and immune health



Nutritional Information

One capsule provides:

Lactobacilli Culture Providing 2 billion ($2x10^9$) L. acidophilus, L. casei, L. rhamnosus	36 mg

Take one capsule two to four times daily, with food. Swallow with water.

SUMMARY

- 3 strains of research based probiotic cultures.
- L. acidophilus, L. casei and L. rhamnosus 2 billion per capsule.
- Lyophilised, encapsulated and individually sealed to enhance stability.

DESCRIPTION

A probiotic supplement designed to support digestive, gut and immune health. Probiotic bacteria help restore a positive balance of bacteria in the gastrointestinal tract which can be disrupted by poor diet, stress or use of medication. Recommended for use as an adjunct or following antibiotic treatment. Probiotic bacteria support and regulate immune response and may contribute to reducing the risk or duration of infections or alleviate symptoms of immune based conditions such as allergies. Maternal probiotic supplementation during pregnancy has been shown to significantly reduce the development of atopic conditions in infants.

THE MICROBIOME

Probiotics form a major part of the microbiome. The microbiome is the mix of trillions[1] of bacteria, viruses, yeasts and parasites that cover the body and line the digestive tract. Microbial make-up influences physical and emotional health and plays a role in determining genetic expression.

DIGESTIVE AND GUT HEALTH

Lactobacilli probiotic bacteria facilitates the digestive process in multiple ways. They secrete digestive enzymes which helps with the breakdown of food and metabolise nutrients making them more bioavailable to the body. They also produce beneficial nutrients for the body such as vitamin K, B vitamins and short chain fatty acids.

Healthy gut function: Probiotics form a large proportion of faecal matter bulk, and aid with the transit of food along the gut. Probiotics, especially lactobacillus, produce short chain fatty acids (SCFA) which stimulate peristalsis, promoting bowel regularity[1].

Digestion of foods: Lactobacilli probiotic bacteria produce many identified digestive enzymes, that complement the 20 indigenous enzymes. Lactobacilli probiotic bacteria help with the digestion of lactose, therefore supplementation is recommended for lactose intolerance. A review demonstrated that lactose intolerant individuals who took Lactobacilli strains showed improved symptoms when ingesting dairy products. Lactose metabolism is facilitated greatly by Lactobacillus casei[2].

Gut mobility: Probiotics metabolise L-tryptophan into serotonin. Serotonin is a major factor in the normal gut motility. Studies conclude that altered serotonin signalling may be a direct cause of IBS[3]. Most of the body's serotonin is present in gastric neuroendocrine cells (enterochromaffin cells). Serotonin activates intrinsic and extrinsic neurons to initiate peristaltic reflexes[4].

Colonic integrity: Lactobacilli produce short chain fatty acids (SCFA). The most beneficial being butyrate, an important substance for maintaining the epithelium of colonic tissue[5]. SCFA help to regulate the integrity of the colonic epithelial barrier through the regulation of the tight junctions and plays a role in appetite regulation[5].

Gut pain: Lactobacillus acidophilus stimulates internal opioid and cannabinoid receptors in the gut lining and modulates abdominal pain in a way similar to morphine[6] and is particularly beneficial in those with IBS induced pain.

IMMUNE SYSTEM HEALTH

Immune tolerance: Dysbiosis is associated with many diseases including autoimmune diseases such as inflammatory bowel diseases, multiple sclerosis, allergies, asthma and diabetes[1]. The SCFA that are produced by lactobacillus bacteria have an immunomodulatory effect and promotes immune tolerance, beneficial for those with

autoimmune conditions and allergies. Bacteria has direct communication with the gut associated lymphoid tissue (GALT) situated underneath the gut. The GALT contains a store of T and B lymphocytes which must stay in the correct ratio in order to maintain equilibrium of the immune system. The regulation of the gut barrier plays an essential part in a balanced immune system and is regulated by SCFA.

One study looked at probiotic supplementation and concluded that Lactobacillus rhamnosus supplementation is able to enhance aspects of natural immunity and could be used as a dietary adjunct for optimizing immune responsiveness, particularly in the elderly[7], who typically have reduced immune function.

Gut barrier: Lactobacilli probiotic bacteria form a barrier that protects the gut wall from pathogens, toxins and allergens. The probiotic barrier plays on integral role in the mucosal immune system and resistance to infection.

Gut immunity: Probiotics modulate intestinal immunity and change responsiveness of the intestinal epithelia and immune cells to microbes[8]. Taking a probiotic supplement changes the environment of the gut, allowing probiotics to thrive. Lactobacilli strains produce lactic acid which ensures the gut pH is at the right level, and is an antimicrobial agent, making the environment harder for pathogenic bacteria to thrive. Probiotics compete for binding sites with pathogenic organisms on the intestinal mucosa, causing a 'crowding out' effect of unwanted microbes. Probiotics decrease the level of proinflammatory cytokines within the gut[9], which allows for better probiotic adherence to the gut wall.

Lactobacillus casei supplementation has been shown in one double blind placebo controlled study to effectively improve immune function by increasing systemic and mucosal immune responses to challenges[10].

NEONATE AND INFANT HEALTH

Atopic diseases: Maternal microbiome health has the influence to determine the health of the baby. Many studies report that maternal probiotic supplementation reduces the chance of a child developing asthma, eczema and other atopic diseases[11,12,13,14]. This is partially due to: the placental microbiome, which is based on the mothers' microbiome; the ingestion of microbial rich fluids by the infant as they pass through the birth canal; from skin to skin contact and from the probiotic rich breast milk. Gut probiotics are trafficked to the mammary glands via macrophage immune cells[15], which then line the gut of the infant.

Innate immune response: Probiotics play an important role in the modulation of innate immune responses in the infant[15] meaning the first transition of probiotics from the mother to the infant is essential. Maternal supplementation leads to lower inflammatory markers, the benefits of which are then transferred to the infant[14], setting the foundation for life.

LACTOBACILLUS RHAMNOSUS

Neonate health: Lactobacillus rhamnosus is particularly useful for influencing the immune system of the neonate and providing immunomodulation of breast milk, one study concluded[16]. Another study demonstrated the beneficial effect of Lactobacillus rhamnosus on the vaginal microbiome in woman. The bacteria passed from the rectum to the vagina where it decreased yeast concentrations and pathogenic bacteria[17]. Healthy vaginal flora is essential at the time of birth to set the foundation for neonate health.

WHY DO SOME PEOPLE NEED PROBIOTIC SUPPLEMENTATION?

The bacterial diversity and the number of probiotic bacteria can decline for a variety of reasons. Overuse of antibiotics, chlorine in drinking water and high fat and high sugar diets all play a role, as well as our mothers health, infant birth and feeding method. Other factors also play a role, such as the ingestion of intolerant foods and inflammation within the gut. Inflammation within the gut caused by inflammatory diseases and consuming foods that produce an IgG immune response decrease probiotic adhesion to the gut wall, allowing other pathogenic microbiome to thrive.

Combining three of the most researched strains of probiotics; Lactobacillus acidophilus, Lactobacillus casei and Lactobacillus rhamnosus provides a therapeutic tool in the management and prevention of immune and gut disorders, as well as encouraging neonate health.

HOW SHOULD ACIDOPHILUS PLUS BE TAKEN?

One capsule two to four times daily, with food. Swallow with water.

ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING ACIDOPHILUS PLUS?

Acidophilus plus is intended for use to support immune function, gut health and to support a healthy pregnancy and neonate health and is not intended for use by;

- Those on immunosuppressing medication, such as those with organ transplants,
- Those on blood thinning medication.
- Children.

FEATURES

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- 2 billion per capsule.
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HEALTH NEEDS

IMMUNITY

GUT AND DIGESTION

WOMEN'S HEALTH

CHILDREN'S HEALTH

EVERYDAY HEALTH & WELLBEING

SCIENTIFIC REFERENCES

1. Genome Med. 2016; 8: 51.
2. International Dairy Journal.2007;17:11:1262-1277
3. Clin Chim Acta. 2009;403:1-2:47-55.
4. Am J Physiol Gastrointest Liver Physiol.2007;292:1:429-37
5. Gut Microbes. 2016; 7:3:189–200.
6. Nature Medicine.2007;13:35–3715.
7. Nutrition Research.2001;21:1–2:183-189
8. Therap Adv Gastroenterol.2013;6:1:39–51.
9. Nutrients. 2013;5:6:1869–1912.
10. British Journal of Nutrition.2012;107:6:876-884
11. Journal of Allergy and Clinical Immunology.2012;130:6:1355-1360
12. Clinical and experimental allergy.2008;38:8:1342–1348
13. Journal of Allergy and Clinical Immunology.2002;109:1:119-121
14. Clinical and experimental allergy.2007:37:3:348–357
15. Nutrients. 2013;5:6:1869–1912.
16. Clinical and experimental Allergy.2008; 38:10:131-134
17. Pathogens and disease.2003;35:2:131–134

Version 1.02

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