Center For Holistic Healthcare & Education
THE FUNCTIONS & BENEFITS OF 18 PROBIOTIC STRAINS

1. **Bifidobacterium bifidum:**
   - Reduce liver enzymes
   - Increase cell regeneration in alcohol-induced liver injury
   - Reduce death among very low birth weight infants
   - Stimulate immunity in very low birth weight infants
   - Increase TGF-beta (anti-inflammatory) levels
   - Reduce allergies
   - Stimulate the immune system among HIV-infected children
   - Reduce *H. pylori* colonization
   - Increase CD8+ T-cells as needed
   - Establish infant microflora
   - Inhibit E. coli, Salmonella typhosa, Shigella dysentariae, Bacillus cereus, Pseudomonas fluorescens, mrocococcus flavis, Staph aureus,
   - Reduce intestinal bacterial infections
   - Reduce acute diarrhea (rotavirus and non-rotavirus)

2. **Bifidobacterium breve:**
   - Reduce severe systemic inflammatory response syndrome
   - Increase resistance to respiratory infection
   - Reduce TNF-alpha (inflammatory)
   - Reduce IL-10 (inflammatory)
   - Reduce TGF-beta1 (inflammatory)
   - Reduce IBS symptoms (Irritable Bowel)
   - Decrease beta-glucoronidase (colon tumor-causing)
   - Inhibit *H. pylori*
   - Increase antipoliavirus vaccination effectiveness
   - Reduce acute diarrhea (rotavirus and non-rotavirus)
   - Reduce allergy symptoms
   - Increase growth weights among very low birth weight infants

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.
3. *Bifidobacterium infantis*:

- Reduce acute diarrhea (rotavirus and non-rotavirus)
- Reduce or eliminate symptoms of IBS
- Reduce death among very low weight infants
- Increased immunity among very low birth weight infants
- Establish infant microflora
- Normalize Th1/Th2 ratio
- Reduce inflammatory allergic responses
- Normalize IL-10/IL-12 ratio
- Improve immune system efficiency
- Increase antipoliovirus IgA levels following vaccination
- Reduce urinary oxalate (kidney stones)

4. *Bifidobacterium animalis/B. lactis*:

- Reduce constipation
- Improve digestive comfort
- Decrease total cholesterol
- Increase blood glucose control
- Reduce risk of otitis media
- Reduce respiratory diseases (severity and frequency)
- Reduce colds and flu
- Strengthen the immune system
- Reduce salivary mutans in mouth
- Increase body weight among preterm infants
- Increase vaccination immune response
- Reduce CRP (inflammatory) levels
- Reduce TNF-alpha (inflammatory) levels
- Reduce acute diarrhea (rotavirus and non-rotavirus)
- Reduce IL-10 (inflammatory) levels
- Reduce TGF-beta1 (inflammatory) levels
- Reduce inflammatory responses
- Reduce CDE4+CD54(+) (inflammatory) levels
- Stimulate improvement in atopic dermatitis patients
- Reduce IBS symptoms (Irritable Bowel Syndrome)
- Reduce diarrhea
- Normalize bowel movements
- Decrease intestinal permeability (Leaky Bowel)

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.
**BENEFITS OF PROBIOTICS**

- Reduce blood levels of interferon-gamma
- Stimulate IgA cells among milk-allergy infants
- Improve atopic dermatitis symptoms and sensitivity
- Inhibit *H. pylori*
- Increase HDL-cholesterol
- Reduce allergic inflammation
- Increase T-cell activity as needed
- Increase immunity among the elderly
- Increase natural killer cell activity
- Reduce dental caries (cavities)
- Increase absorption of dairy

**5. Bifidobacterium longum:**

- Reduce death among very low birth weight infants
- Reduce sickness among very low birth weight infants
- Reduce acute diarrhea (rotavirus and non-rotavirus)
- Reduce vomiting
- Reduce nausea
- Reduce ulcerative colitis
- Reduce or alleviate symptoms of IBS
- Stabilize intestinal barrier function (decreased permeability)
- Inhibit *H. pylori*
- Increase TGF-beta1 (anti-inflammatory) levels
- Decrease (inflammatory) TNF-alpha
- Decrease (inflammatory) IL-10 cytokines
- Reduce lactose-intolerance symptoms
- Reduce diarrhea
- Increase helper T-cells type2 (Th2)
- Increase IL-6
- Reduce Th1
- Reduce pro-inflammatory IL-12 and interferon
- Stimulate healing of liver in cirrhosis
- Reduce constipation
- Reduce hypersensitivity
- Reduce IBS symptoms (Irritable Bowel Syndrome)
- Inhibit intestinal pathogenic bacteria
- Decrease prostate cancer risk
- Decrease itching, nasal blockage and rhinitis in allergies

*For more information, please visit: [www.thechhe.com](http://www.thechhe.com)*

*The Center for Holistic Healthcare & Education Inc.*
BENEFITS OF PROBIOTICS

- Reduce NF-kappaB
- Reduce IL-8 levels
- Reduce production of chronic liver disease
- Reduce incidence and duration of common cold
- Increase antipoliovirus IgA levels following vaccination
- Reduce total cholesterol levels
- Increase (good) HDL-cholesterol levels
- Increase absorption of dairy

6. *Lactobacillus acidophilus*:

- Lower LDL and total cholesterol
- Help digest milk and dairy products
- Increase growth rates
- Reduce stress-induced gastrointestinal problems
- Reduce infection from rotavirus
- Reduce necrotizing enterocolitis
- Reduce intestinal permeability
- Control *H. pylori*
- Inhibit Clostridium botulinum, Clostridium perfringens, Proteus mirabilis, Salmonella enteridis and typhimurium, Shigella dysenteriae and paradysenteriae, Staph aureus and faecalis, E. coli
- Modulate PGE2 and IgA
- Reduce dyspepsia
- Modulate IgG
- Relieve and inhibit IBS and colitis
- Inhibit keratoconjunctivitis (in eye drops)
- Inhibit and control *Clostridium* spp. (*C. diff*)
- Inhibit *Bacteroides* spp.
- Inhibit and resolve acute diarrhea
- Reduce vaginosis and vaginitis
- Decrease triglycerides
- Increase appetite
- Increase growth in preterm infants
- Inhibit *Candida* spp. overgrowth
- Produce B vitamins and other nutrients
- Reduce anemia
- Increase vaccine efficiency
- Produce virus-specific antibodies

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.
• Reduce allergic response
• Reduce urinary oxalate levels (kidney stones)
• Inhibit antibiotic-related diarrhea
• Decrease allergic symptoms
• Inhibit upper respiratory infections
• Increase (good) HDL-cholesterol
• Inhibit tonsillitis
• Reduce blood pressure
• Inhibit viruses
• Increase leukocytes
• Increase calcium absorption

7. Lactobacillus brevis:

• Reduce periodontal disease
• Reduce PGE2 levels
• Reduce IFN-gamma levels
• Reduce mouth ulcers
• Reduce urinary oxalate levels (kidney stones)
• Decrease H. pylori colonization

8. Lactobacillus bulgaricus:

• Reduce intestinal permeability
• Decrease IBS symptoms
• Help manage HIV symptoms
• Stimulate TNF-alpha
• Stimulate IL-1beta
• Decrease diarrhea (rotavirus and non-rotavirus)
• Decrease nausea
• Increase Immune response
• Inhibit Clostridium botulinum, Clostridium perfringens, Proteus mirabilis, Salmonella enteridis and typhimurium, Staph aureus and faecalis, E. coli
• Increase CD8+ levels
• Lower CD4+/CD8+ ratio (Lower CD4+ Associated with inflammation)
• Increase IFN-gamma
• Lower total cholesterol
• Lower LDL levels

For more information, please visit: www.thechhe.com
The Center for Holistic Healthcare & Education Inc.
BENEFITS OF PROBIOTICS

- Lower triglycerides
- Inhibit viruses
- Reduce salivary mutans in the mouth
- Increase absorption of dairy (lactose)
- Increase white blood cell counts after chemotherapy
- Increase IgA specific to rotavirus (increase immunity against rotavirus)
- Reduce intestinal bacteria

9. *Lactobacillus casei*:

- Inhibit pathogenic microbial infections
- Reduce occurrence, risk and symptoms of IBS (Irritable Bowel Syndrome)
- Inhibit severe systemic inflammatory response syndrome
- Decrease C-reactive protein (CRP)
- Inhibit pneumonia
- Inhibit respiratory tract infections
- Inhibit bronchitis
- Maintain remission of diverticular disease
- Inhibit *H. Pylori* (and ulcers)
- Reduce allergy symptoms
- Inhibit Pseudomonas aeruginosa
- Decrease milk intolerance
- Increase CD3+ and CD4+
- Increase phagocytic activity
- Support liver function
- Decrease cytokine TNF-alpha
- Stimulate the immune system
- Inhibit and reduce diarrhea
- Produce vitamins B1 and B2
- Prevent recurrence of bladder cancer
- Stimulate cytokine interleukin-1beta (IL-1b)
- Stimulate interferon-gamma
- Inhibit Clostridium difficile
- Reduce asthma symptoms
- Reduce constipation
- Decrease beta-glucuronidase (associated with colon cancer)
- Stimulate natural killer cell activity (NK-cells)

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.
• Increase IgA levels
• Increase lymphocytes
• Decrease IL-6 (pro-inflammatory)
• Increase IL-12 (stimulates NK-cells)
• Reduce lower respiratory infections
• Inhibit Candida overgrowth
• Inhibit vaginosis
• Prevent colorectal tumor growth
• Restore NK-cell activity in smokers
• Stimulate the immune system among the elderly
• Increase oxygen burst activity of monocytes
• Increase CD56 lymphocytes
• Decrease rotavirus infections
• Decrease colds and influenza (flu)
• Reduce risk of bladder cancer
• Increase (good) HDL-cholesterol
• Decrease triglycerides
• Inhibit viral infections
• Decrease blood pressure
• Inhibit malignant pleural effusions secondary to lung cancer
• Reduce cervix tumors when used in combination with radiation therapy
• Inhibit tumor growth of carcinomatous peritonitis/stomach cancer
• Break down nutrients for bioavailability

10. Lactobacillus helveticus:

• Reduce blood pressure among hypertensive patients
• Produce ACE-inhibitor molecules
• Increase sleep quality and duration
• Increase general health perception
• Increase serum levels of calcium
• Decrease PTH (parathyroid hormone- marker for bone loss)
• Normalize gut colonization similar to breast-fed infants among formula-fed infants

For more information, please visit: www.thechhe.com
The Center for Holistic Healthcare & Education Inc.
11. *Lactobacillus plantarum*:

- Reduce burn infections (topically)
- Increase burn healing
- Strengthen the immune system
- Help restore healthy liver enzymes (in mild alcoholic-induced liver injury)
- Reduce frequency and severity of respiratory diseases during the cold and flu season
- Reduce intestinal permeability
- Inhibit various intestinal pathobiotics (such as *Clostridium difficile*)
- Reduce Th2 (inflammatory) levels and incrust Th1/Th2 ratio
- Reduce inflammatory responses
- Reduce symptoms and aid healing of multiple traumas among injured patients
- Reduce fungal infections
- Reduce IBS symptoms
- Reduce pancreatic sepsis (infection)
- Reduce systolic blood pressure
- Reduce leptin levels
- Reduce interleukin-6 (IL-6) levels
- Reduce adhesion of vein endothelial cells by monocytes (risk of atherosclerosis)
- Reduce postoperative infection
- Reduce risk of pneumonia
- Reduce kidney oxalate levels (kidney stones)
- Decrease flatulence
- Stimulate immunity in HIV children

12. *Lactobacillus reuteri*:

- Inhibit gingivitis
- Reduce pro-inflammatory cytokines
- Help re-establish the pH of the vagina
- Stimulate growth and feeding among preterm infants
- Inhibit and suppress *H. pylori*
- Decrease dyspepsia
- Increase CD3+ in HIV patients
- Reduce nausea

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.
BENEFITS OF PROBIOTICS

• Reduce flatulence
• Reduce diarrhea (rotavirus and non-rotavirus)
• Reduce TGF-beta2 in breast feeding mothers (reduced risk of eczema)
• Reduce salivary mutans streptococcus
• Stimulate immune system
• Reduce plaque on teeth
• Inhibit vaginal candidiasis
• Decrease symptoms of IBS
• Increase CD4+ and CD25 T-cells (in IBS)
• Reduce IgE eczema in infancy
• Reduce infant colic
• Restore vagina pH
• Reduce colds and influenza (flu)
• Stabilize intestinal barrier function (reducing intestinal permeability)
• Decrease atopic dermatitis

13. Lactobacillus rhamnosus:

• Inhibit a number of pathogenic microbial infections
• Improve glucose control
• Reduce risk of ear infections
• Reduce risk of respiratory infections
• Decrease beta-glucosidase
• Inhibit vaginosis
• Reduce eczema
• Reduce colds and flu
• Stimulate the immune system
• Increase IgA levels in mouth mucosa
• Increase IgA levels in mother's breast milk
• Inhibit Pseudomonas aeruginosa infections in respiratory tract
• Inhibit Clostridium difficile
• Increase immune response in HIV/AIDS patients
• Decrease symptoms of HIV/AIDS
• Inhibit rotavirus
• Inhibit enterobacteria
• Inhibit IBS (Irritable Bowel Syndrome) symptoms
• Decrease IL-12, IL-2+, and CD69+ T-cells in IBS
• Reduce constipation
• Inhibit vancomycin-resistant enterococci (antibiotic-resistant)

For more information, please visit: www.thechhe.com
The Center for Holistic Healthcare & Education Inc.
• Reduce risk of colon cancer
• Modulate skin IgE sensitization
• Inhibit *H. pylori* (ulcer-causing bacteria)
• Reduce atopic dermatitis in children
• Increase Hib IgG levels in allergy-prone infants
• Reduce colic
• Stimulate infant growth
• Stimulate IgM, IgA, and IgG levels
• Stabilize intestinal barrier function (decreased permeability)
• Increase INF-gamma
• Modulate IL-4
• Reduce inflammation
• Reduce LDL-cholesterol levels

14. *Lactobacillus salivarius*:

• Inhibit mutan streptococci in the mouth
• Reduce dental carries
• Reduce gingivitis and periodontal disease
• Reduce mastitis
• Reduce risk of strep throat caused by *S. pyogenes*
• Reduce ulcerative colitis and IBS
• Inhibit *E. Coli*
• Inhibit *Salmonella* spp.
• Inhibit Candida albicans

15. *Streptococcus thermophilus*:

• Reduce acute diarrhea (rotavirus and non-rotavirus)
• Reduce intestinal permeability
• Inhibit *H. pylori*
• Help manage AIDS symptoms
• Increase lymphocytes among low-WBC patients (white blood cells)
• Increase IL-1beta
• Decrease IL-10
• Increase tumor necrosing factor (NTF-a)
• Increase absorption of dairy
• Decrease symptoms of IBS (Irritable Bowel Syndrome)

*For more information, please visit: www.thechhe.com*

*The Center for Holistic Healthcare & Education Inc.*
• Inhibit Clostridium difficile
• Increase immune function among the elderly
• Restore formula-fed infant microflora similar to breast-fed infants
• Increase CD8+
• Increase IFN-gamma
• Reduce acute gastroenteritis (diarrhea)
• Reduce baby colic
• Reduce symptoms of atopic dermatitis
• Reduce nasal cavity infections
• Increase (good) HDL-cholesterol
• Increase growth in preterm infants
• Reduce harmful intestinal bacteria
• Reduce upper respiratory tract infections from Staphylococcus aureus, Streptococcus pneumoniae, beta-hemolytic streptococci, and Haemophilus influenza
• Reduce urine oxalates (kidney stones)
• Reduce salivary mutans streptococci in the mouth
• Reduce flare-ups of chronic pouchitis
• Reduce LDL-cholesterol in overweight subjects
• Reduce ulcerative colitis

16. Bacillus coagulans:

• Reduce bloating in IBS
• Reduce abdominal pain in IBS
• Increase T-cell production of TNF-alpha in response to influenza A and adenovirus exposures

17. Enterococcus faecium:

• Decrease levels of sICAM-1 and CD54 (blood pressure adhesion) on monocytes
• Decrease CD11b (blood pressure adhesion) on lymphocytes
• Reduce blood vessel adhesion
• Reduce acute diarrhea
• Reduce beta-glucuronidase (associated with colon cancer)
• Increase superoxide dismutase and other antioxidant substances
• Increase IgG from peripheral blood mononuclear cells
• Increase myeloperoxidase and elastase in peripheral neutrophils
• Reduce total cholesterol

For more information, please visit: www.thechhe.com
The Center for Holistic Healthcare & Education Inc.
BENEFITS OF PROBIOTICS

- Reduce LDL-cholesterol
- Decrease blood pressure
- Reduce endotoxin levels among cirrhosis patients
- Decrease abdominal pain and frequency of IBS symptoms

18. *Saccharomyces boulardii*:

- Decrease infections *Entameba histolytica* (intestinal)
- Inhibit *H. pylori*
- Decrease intestinal permeability
- Decrease diarrhea infections
- Stimulate T-cells as needed
- Decrease C-Reactive Protein (CRP) (inflammatory)
- Decrease beta-glucoronidase enzyme (associated with colon cancer)
- Inhibit E. Coli
- Reduce symptoms of Crohn's disease
- Reduce Clostridium difficile
- Decrease parathyroid hormone - marker for bone loss

*Source: Case Adams, PhD "Probiotics; Protection Against Infection"

For more information, please visit: [www.thechhe.com](http://www.thechhe.com)
The Center for Holistic Healthcare & Education Inc.