

NEW CLINICAL STUDY OF DIGESTIVE+++ SHOWS IMPROVED GUT HEALTH INDICATORS



In a four-week clinical study, Dr. Edward Andujar and Dr. Hitendra Shah evaluated a group of volunteer subjects at the Wellness Medical Clinic in Diamond Bar, California. The volunteer subjects showed an improvement in several indicators of gut health following four weeks of supplementation with two DIGESTIVE+++ capsules and two Laminine capsules taken daily.

The subjects were asked to refrain from using other supplements prior to the study and provided the doctors with initial baseline stool samples. Data from the Comprehensive Digestive Stool Analysis (Genova Diagnostics, Asheville, North Carolina) showed a substantial improvement in total Short Chain Fatty Acids (SCFAs) and butyrate production. The increase of these components is a definite indicator that the gut is reestablishing a healthier microbiome. Good probiotics are fermenting unabsorbed dietary fiber, which supports many factors relating to gut health.

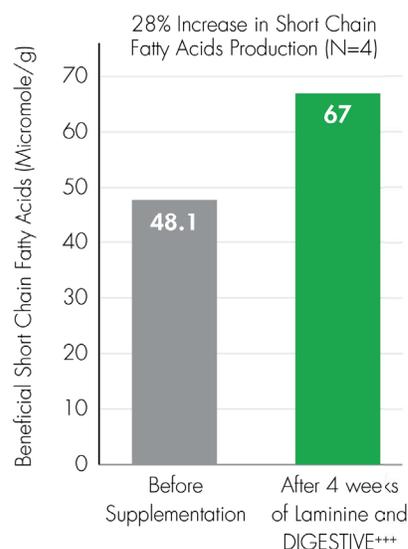
BENEFITS OF SCFAs

Short Chain Fatty Acids (butyrate, acetate and propionate) are produced by the anaerobic (absence of air) bacterial fermentation of primarily non-absorbed dietary fiber. They serve several important functions:

- Provide energy for cells lining the digestive tract.
- Act as an anti-diarrheal agent by removing sodium and water from the colon.
- Improve colonic blood flow.
- Deter the colonization of pathogens in the bowel.
- Provide 5-30 percent of systemic daily energy requirements.
- Reduce ammonia uptake from the intestine.



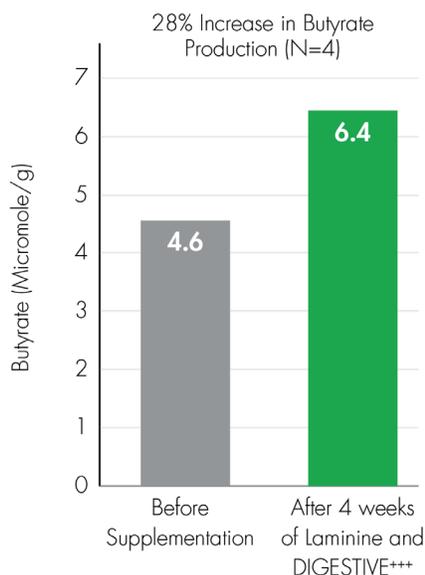
Laminine® and DIGESTIVE+++ Supplementation (2 capsules of each/day for 4 weeks) Improved Gut Health as Short Chain Fatty Acids Production Increased



DIGESTIVE+++ AND LAMININE CONSUMPTION ENHANCE BUTYRATE PRODUCTION

Butyrate is the preferred substrate for colon cells, assisting in the maintenance of colonic integrity. Butyrate helps prevent mutations in colon cells by stimulating healthy cellular growth and reducing DNA damage.

Laminine® and DIGESTIVE+++ Supplementation (2 capsules of each/day for 4 weeks) Improved Gut Health as Butyrate Production Increased



BUTYRATE SUPPORTS REDUCED INFLAMMATION OF THE BOWEL

During the four-week study, butyrate had a supporting role in reducing inflammation of the bowel. Butyrate acts as a good fuel for the cells lining the colon and keeps them properly nourished. This can protect against inflammation and tears forming in the gut lining. In certain imbalances of the colon and GI tract, butyrate has been shown to decrease markers of inflammation. People that experience bowel irritation conditions (especially those that may include mild diarrhea) tend to have lower total SCFAs.

Low levels of total SCFAs or butyrate can be increased by:

- Dietary fiber
- Larch arabinogalactans (a fiber that ferments in the intestine).
- Normalization of pH-levels (In the GI tract, SCFA production is higher when the colonic pH is between 5-8).
- Normalization of transit time. (Chronically slow transit time can lead to bacterial overgrowth of the small intestine and high SCFAs; very rapid transit time can also lead to high SCFAs).
- Consuming prebiotics and probiotics such as fructooligosaccharides and *Bacillus coagulans* (found in the DIGESTIVE+++ formula). *Bacillus coagulans* is a Lactobacillus bacteria that produces lactic acid. It acts as a substrate for other gut bacteria that ferment it into SCFAs.
- Butyric acid (oral or rectal).



SOME DIETARY FIBERS MORE EFFECTIVE THAN OTHERS

In general, the more slowly fermented (insoluble) forms of fiber maintain low pH and raise SCFAs (especially butyrate) along the entire length of the bowel. While both soluble and insoluble fiber foods are important for health, digestion and preventing diseases, insoluble fiber passes through our intestines largely intact and becomes fuel for good bacteria in the colon. It also supports Butyrate production, one of the best fuels to support gut health.

In conclusion, supplementing with Laminine and DIGESTIVE+++ products from LifePharm showed indication that short-chain fatty acids (especially butyrate, the most beneficial) are being increased over a relatively short time. The formula created by LifePharm for a probiotic, prebiotic and digestive enzyme product was formulated with science-based trials evaluating each selected ingredient. Taking DIGESTIVE+++ and Laminine as directed is a very positive intervention to support optimal digestive tract and colon health.

[LEARN MORE ABOUT THE BENEFITS OF DIGESTIVE+++](#)

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

SUBJECT MATTER REFERENCES

1. Clausen MR, Bonnen H, Mortensen PB. Colonic fermentation of dietary fiber to short chain fatty acids in patients with adenomatous polyps and colonic cancer. *Gut* 1991;32:923-8.
2. Royall D. Clinical significance of colonic fermentation. *Am J Gastroenterol* 1990;85(10):1307-12.
3. Ramakrishna BS, Mathan VI. Colonic dysfunction in acute diarrhea: the role of luminal short chain fatty acids. *Gut*. 1993 Sep;34(9):1215-8.
4. Mortensen FV, et al. Short chain fatty acids dilate isolated human colonic resistance arteries. *Gut* 1990;31:1391-4.
5. Rombeau JL, Kripke SA. Metabolic and intestinal effects of short-chain fatty acids. *JPEN J Parenter Enteral Nutr* 1990;14(5):181S-4S.
6. Roediger WE. The starved colon—diminished mucosal nutrition, diminished absorption, and colitis. *Dis Colon Rectum* 1990;33(10):858-62.
7. Scheppach W, Bartram, HP, Richter F. Role of short-chain fatty acids in the prevention of colorectal cancer. *Eur J Cancer* 1995 Jul-Aug;31A(7-8):1077-80.
8. Smith JG, Yokoyama WH, German JB. Butyric acid from the diet: actions at the level of gene expression. *Crit Rev Food Sci Nutr* 1998 May;38(4):259-97.
9. Segain JP, et al. Butyrate inhibits inflammatory responses through NFkappaB inhibition: implications for Crohn's disease. *Gut* 2000;47(3):397-403.
10. Treem WR, Aet al. Fecal short-chain fatty acids in patients with diarrhea-predominant irritable bowel syndrome: in vitro studies of carbohydrate fermentation. *J Pediatr Gastroenterol Nutr* 1996;23(3):280-6.
11. Holtug K, Rasmussen HS, Mortensen PB. Short chain fatty acids in inflammatory bowel diseases. The effect of bacterial fermentation of blood. *Scand J Clin Lab Invest* 1988;48(7):667-71.



LIFEPHARM®
because life is precious