

# Clinical Studies

## Digestive Health Benefits

*L. acidophilus* NCFM® and *B. lactis* HN019™ are both probiotic strains that have been extensively studied in vitro and in animal models for characteristics considered to be important to digestive health. These studies have demonstrated that both *L. acidophilus* NCFM® and *B. lactis* HN019™ display antagonistic activity against common gastrointestinal pathogens and foodborne microbes. Furthermore, a recent human clinical study showed that *B. lactis* HN019™ reduced colonic transit times, resulting in positive digestive comfort. (Fig. 1)

Multiple human intervention trials have shown that *L. acidophilus* NCFM® and *B. lactis* HN019™ can positively modulate gut microflora resulting in enhanced levels of beneficial bacteria. Collectively, these findings support the health-enhancing attributes associated with *L. acidophilus* NCFM® and *B. lactis* HN019™ consumption and strongly position these strains as premium digestive health probiotics.

### *B. lactis* HN019™ decrease Colonic Transit Time and reduce the frequency of digestive symptoms

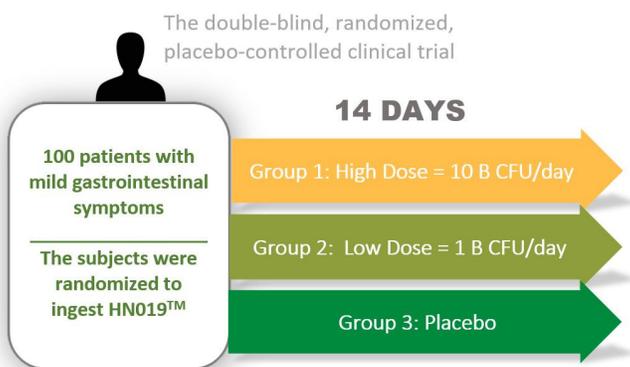
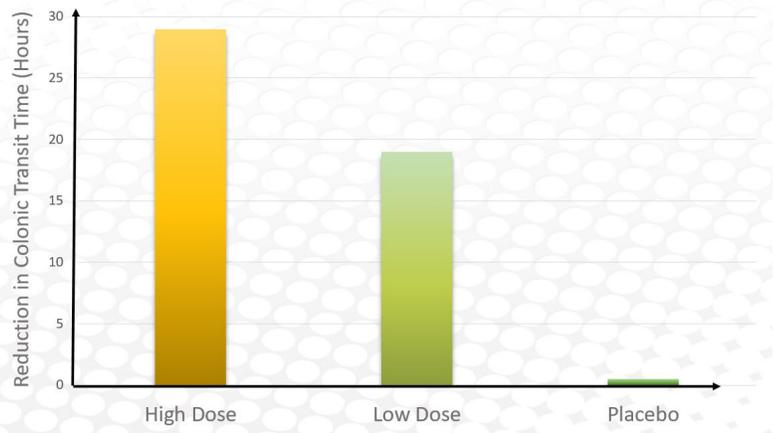


Figure 1. Effect on colonic transit time (CTT) of healthy adults after 14 days of consumption of *B. lactis* HN019™.



## Immune Health Benefits

The human immune system's primary function is to defend the body against foreign infectious agents and other invaders. As the gastrointestinal tract is considered the body's largest immune organ, the intestinal microbial ecosystem represents one of the key elements in supporting the body's natural and acquired immune responses. *B. lactis* HN019™ is well documented to positively impact the immune system based on compelling evidence generated through numerous in vitro, animal and human trials, performed on groups of healthy middle-aged or elderly subjects.

Multiple gold standard human clinical studies have evaluated immune system modulation by monitoring the activity of the main biomarkers of natural immunity — phagocytic and natural killer cells. These studies clearly demonstrate significant improvement in these markers of immune health, suggesting that *B. lactis* HN019™ contributes to strengthening the body's natural defenses.

Biolever® Balance offers a premium combination of two highly-documented strains with immune and digestive health benefits to provide you an optimal health solution.

### *B. lactis* HN019™ increases Natural Killer Cell activity

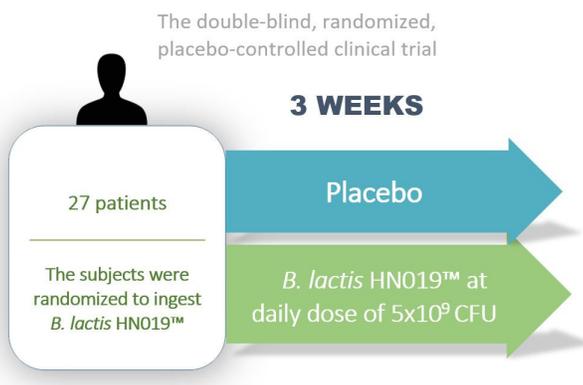
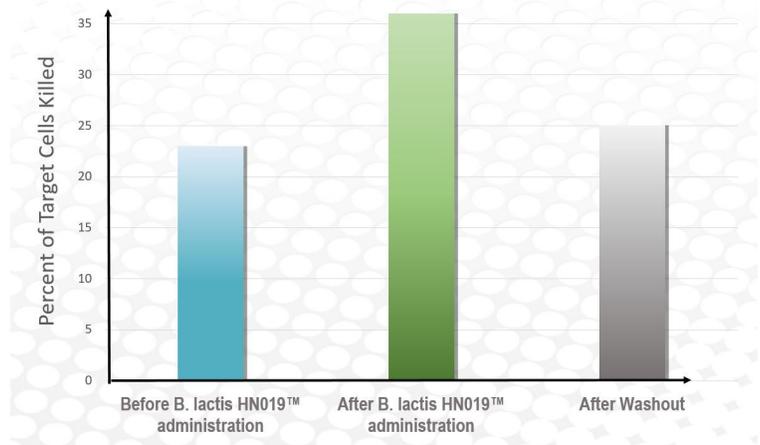


Figure 2. Effect of supplementation with *B. lactis* HN019™ on natural killer cell activity.



#### References:

Gill, H.S., Rutherford, K.J., and Cross, M.L. (2001). Dietary probiotic supplementation enhances natural killer cell activity in the elderly: an investigation of age-related immunological changes. *J. Clin. Immunol.* 21:264-271.

Waller, PA, Gopal, PK, and Leyer, GJ (2011). Dose-response effect of Bifidobacterium lactis HN019 on whole gut transit time and functional gastrointestinal symptoms in adults. *Scand J Gastroenterol.* 46, 1057-1064.