

## **Crohn's Disease Support**

Crohn's Disease is thought to result from a complex interactions between environmental factors, the gut microbes, the genetic background of the patient, and their immune system. It is an autoimmune condition where the patient's immune system attacks their own intestines. It was a condition virtually unheard of a century ago (Martzaris, 2014).

### **A Therapeutic Food protocol to support the reduction of Crohns:**

- **LactORN** - 1 level tsp. twice a week
- **Supernatant Synbiotic** - 1 capsule daily
- **Phyto Power**- 2 capsules daily

When you take the LactORN let the powder dissolve in your mouth, that way you get the full effect of its immune modulating oligoribonucleotides (ORNs) from its *L. casei*.

### **Food Science:**

The interaction of commensal bacteria with the intestinal immune system is an essential factor in the development of inflammatory bowel disease. Liopis et al., (2009) investigated the immune responses to signals from the *E. coli* and the probiotic *L. casei* in Crohn's disease mucosa. *E. coli* significantly upregulated expression of a multitude of inflammatory cytokines (TNF- $\alpha$ , IFN- $\gamma$ , IL-2, IL-6, IL-8 and CXCL 1); while the *L. casei* downregulated these. What's very exciting is that when the two bacteria were combined in an experiment the *L. casei* prevented and counteracted the proinflammatory effects of *E. coli*.

Both the [LactORN](#) and the [Supernatant Synbiotic](#) supply *L. casei*. We are calling these two products the next generation probiotics. Click on their links to find out why.

Pan et al., (2010) reviewed the current knowledge and underlying mechanisms on anti-inflammatory activities of flavonoids; and our Phyto Power contains an exceptionally powerful array of such phytonutrients from wild-crafted blueberries, rosehips, and dandelions from Alaska. Their multitude of flavonoids additionally offer indirect protection by activating endogenous defense systems and by modulating cellular signaling processes such as reducing NF- $\kappa$ B, enhancing glutathione biosynthesis, Nrf2 and much more.

### **Bibliography:**

- Liopis et al. (2009). *Lactobacillus casei* downregulates commensals' inflammatory signals in Crohn's disease mucosa. *Inflamm Bowel Dis*; 15(2):275-83.
- Mantzaris GJ. (2014). When can we cure Crohn's? *Best Pract Res Clin Gastroenterol*; 28(3): 519-29.
- Pan et al. (2010). Anti-inflammatory activity of natural dietary flavonoids. *Food Funct*; 1: 15-31.