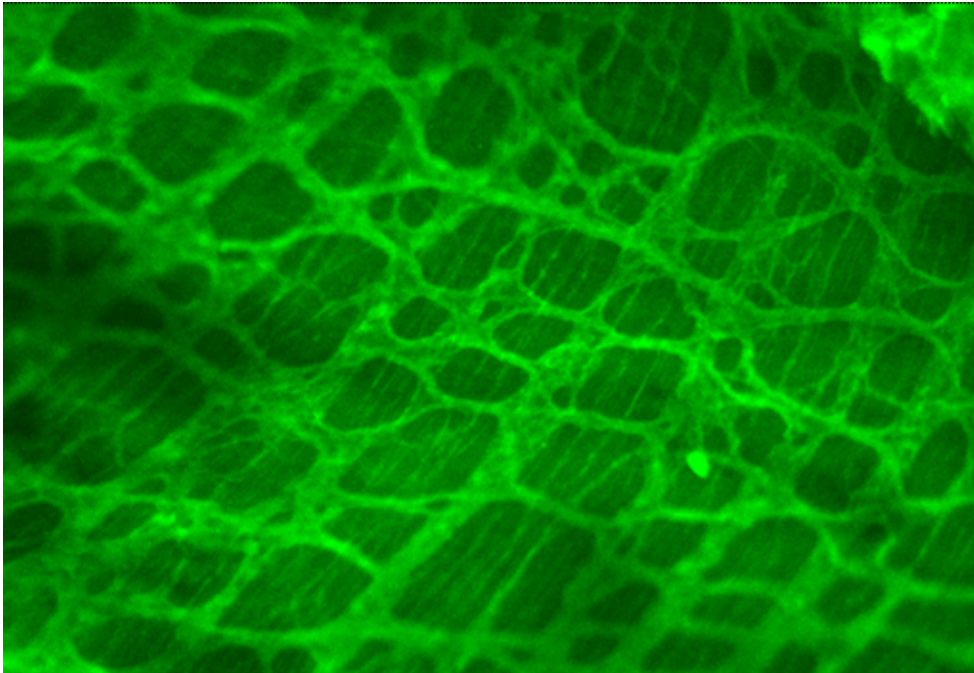


# science in action



Digestive comfort is central to the quality of life. Promoting digestive comfort includes regulating transit time through the gastrointestinal tract and easing the pain associated with digestion and associated disorders.

## Digestive Comfort

### Focus On: Irritable Bowel Syndrome

Irritable Bowel Syndrome (IBS) is a condition characterized by abdominal pain, discomfort, bloating and altered intestinal motility and transit. Today, about 20-30% of the Western population suffers from symptoms related to IBS. After common cold, IBS is the most frequent cause of absences from work or school.

The exact cause of IBS remains unknown, though gastroenteritis is now a recognized environmental risk factor for the development of IBS.

Evidence for immune activation and low-grade inflammation in association with perceived abdominal pain has been reported in IBS patients. Additionally, there is emerging evidence of an abnormal gut microbiota composition in IBS patients. It is not clear whether the altered microbiota plays a role in the development or is a consequence of the gut dysfunction.

Though IBS does not permanently damage the intestine, it can be debilitating, negatively impacting a

person's overall quality of life. IBS sufferers may experience anxiety, poor mood, and lack of concentration and energy.

In certain cases, IBS symptoms can be reduced through diet and stress management. Probiotics – live (non-pathogenic) bacteria which when consumed in adequate amounts, confer a health benefit to the host – may be a suitable therapeutic approach for IBS.

Various probiotic strains exhibit antibacterial, antiviral and anti-inflammatory properties, and also help restore the balance of intestinal microbiota. Specific strains may be useful for reducing the symptoms and severity of IBS.

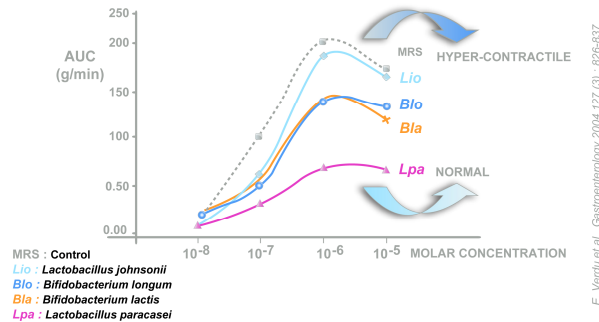
## NRC Research Initiatives

Through targeted approaches that pivot on the extensive knowledge of nutrients (oligosaccharides, food fibres and other natural bioactive ingredients like probiotics), NRC research goals focus on improving gastrointestinal comfort and decreasing the symptoms of digestive disorders.

### Probiotics to Reduce the Symptoms of IBS

NRC researchers are evaluating the effects of specific probiotic strains on intestinal transit and motility. In a study performed at NRC, the influence of probiotics on muscle hypercontractility was tested in animal models recovering from a *Trichinella spiralis* infection (which mimics post infective IBS symptoms).

Study results revealed that the probiotic strain *Lactobacillus paracasei* CNCM I-2116 (ST11) improved motility in the infected animals, likely due to a direct effect of ST11 probiotic in the modulation of the immune response to infection.



**Fig 1: ST11 probiotic improves motility in subjects suffering from IBS symptoms**

Additionally, results from a study of IBS-related stress symptoms in animal models showed that ST11 probiotic prevents stress-induced visceral hypersensitivity. Using ST11 probiotics may be a viable nutrition solution to decrease post-infective and stress-related IBS symptoms.

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