QUEST

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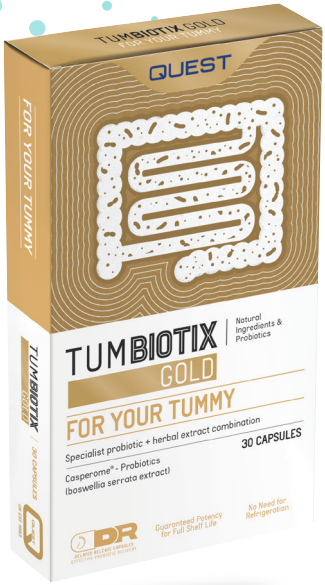
Biotix

TUMBIOTIX GOLD

A targeted probiotic and herbal extract formulation designed to give symptomatic relief to sufferers of IBS and IBD.



Nutritional Information

One capsule provides:

Casperome® Providing 87.5mg boswellia serrata (Standardised to 3-acetyl-11-keto-beta boswellic acid)	250 mg
Lactobacilli culture Providing **2 billion** (2×10^9): L.acidophilus, L.plantarum, L.rhamnosus	23.34 mg

One to two capsules daily with or after a meal. Swallow with water.

SUMMARY

- Specialist probiotic combination of L.acidophilus, L.plantarum, L.rhamnosus along with Casperome for the management of IBS and IBDs.
- Supports the balance of gut microflora and promotes normal bowel habits.

DESCRIPTION

A specialist probiotic designed to be used by those experiencing irritable bowel syndrome (IBS) and irritable bowel diseases (IBDs). Both IBS and IBDs are linked to imbalances in gut microflora. Probiotics offer symptomatic relief of abdominal pain, bloating, flatulence and irregular bowel habits such as alternating diarrhoea or constipation. Casperome is a lecithin formulation of Boswellia Serrata triterpenoid acids which reduce inflammation in the gut and ameliorates symptoms of IBS and IBDs.

CASPEROME AND GUT HEALTH

Casperome, an innovative formulation: Casperome is an innovative lecithin formulation of Boswellia Serrata terpenoid acids with enhanced bioavailability. Casperome has powerful anti-inflammatory activity and has been shown to be effective for inflammatory conditions of the intestinal tract. Casperome provides the whole spectrum of boswellic acids and is standardised with 3-acetyl-11-keto-beta boswellic acid. The full spectrum of boswellic acid is far more favourable for a therapeutic effect than using single boswellic acids. The lecithin formulation ensures that the boswellic acids are evenly distributed throughout the formulation.

Mechanism of action: Boswellic acids target a number or proteins and enzymes to exert beneficial effects. These include microsomal prostaglandin E2 synthase-1 (mPGES-1), 5-lipoxygenase (5-LO), Cyclooxygenase (COX), Human leukocyte elastase (HLE), IκB kinase (IKK). Microsomal prostaglandin E2 synthase-1 synthesises prostaglandin E2 (PGE2) during inflammation. Evidence reveals mPGES-1 inhibitors are a safe alternative to nonsteroidal anti-inflammatory drugs[1] 5-Lipoxygenase (5-LO) is required in biosynthesis of leukotrienes, mediators of inflammation[2]. Cyclooxygenase (COX) is an enzyme responsible for the synthesis of prostanoids, including thromboxane and prostaglandins. Human leukocyte elastase (HLE) is a protease in neutrophils. IκB kinase (IKK) is an enzyme involved in promoting inflammation.

Casperome for IBD sufferers: Irritable bowel diseases (IBDs) refers to chronic inflammatory disorders affecting the bowel. These are Crohn's disease and Ulcerative Colitis. The cause and trigger of these diseases are genetic, overactivity of the immune system and dysbiosis. One study using Casperome vs a control found that Casperome caused a reduction in symptoms of intestinal pain, bowel movements, cramps, malaise, diarrhoea with blood, mucous and blood in stool, rectum involvement, watery stools and occult blood in stools. The study also found an 18% increase in haemoglobin concentration due to the reduced loss of blood in stools and a 32% decrease in white blood cell count due to a reduction of chronic inflammation. The study also found a reduction of calprotectin levels after just 4 weeks[3].

Casperome for IBS sufferers: Irritable bowel syndrome is a collection of symptoms relating to bowel discomfort and disrupted bowel habits. There is some evidence to support the presence of chronic low-grade inflammation in the GI tract in IBS sufferers. Research has shown that Casperome reduces subjective symptoms in IBS sufferers including recurrent abdominal pain, abdominal pain at pressure, altered bowel movements, gas and cramps. Casperome normalises intestinal motility and has an antidiarrheal effect as well as reducing low-grade inflammation, contributing to a reduction in symptoms. Casperome does not cause constipation, like many other antidiarrheal agents[4].

PROBIOTICS AND GUT HEALTH

Probiotics for IBD: Probiotics play a huge role in the pathogenesis of IBDs. Lactobacilli take up epithelial binding sites which reduces the opportunity for pathogens to adhere and colonise. Research has shown that probiotics regulate the immune response and contribute towards reducing the risk of autoimmune diseases including IBDs. Probiotics reduce inflammation in the intestines and have a direct beneficial effect on epithelial cell function, enhancing the gut barrier, regulation epithelial cytokine production and promoting and anti-inflammatory state,

altering mucus production, regulating the innate and systemic immune system and supporting the function of regulatory T Cells[5]. Bacterial DNA containing unmethylated CpG motifs stimulate TLR9 (receptor expressed by immune system cells including dendritic cells, macrophages, natural killer cells, and other antigen presenting cells) and prevent inflammation of the mucosa in models with inflammatory bowel disease. Probiotics aid in the regulation of T regulatory cells via an interaction with dendritic cells which favour T regulatory cell development.

Probiotics for IBS: IBS attacks are often accompanied with anxiety and depression, and it is noted that stressful situations can make IBS worse. Probiotics are required for the conversion of L. tryptophan into serotonin which is then transported into the brain on the back of insulin. Low serotonin is a major cause of depression and anxiety. The gut contains many nerves and is often cited as the second brain. The link between gut function and emotions cannot be denied. There are many serotonin receptors in the gut. Serotonin is responsible for triggering peristaltic actions required for bowel regularity, which is problematic in IBS patients. Short chain fatty acids are produced by lactobacilli and play a role in regulating the tight junctions of the gut wall and nourishing the intestine wall cells. Tight junction integrity in the gut is essential for the prevention and reversal of food intolerances, a common occurrence in IBS patients. Lactobacilli probiotics produce many digestive enzymes that complement our digestive enzyme production. These enzymes from probiotics may be particularly useful in IBS patients who frequently find undigested food in their stools. Undigested food can lead to irritation of the colon and loose stools.

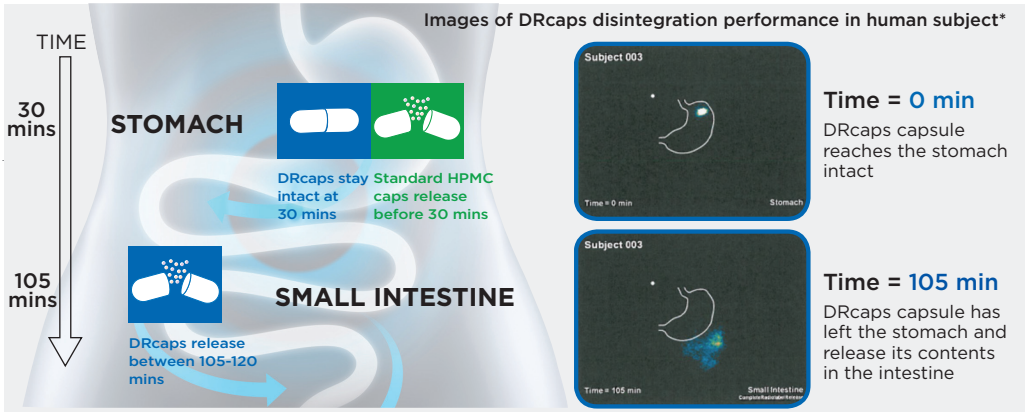
L. acidophilus and L. plantarum combination study: A clinical study using a combination of L.plantarum and L.acidophilus found that 55.6% of IBS patients experienced a reduction in their symptoms, including abdominal pain and discomfort, bloating and alterations in bowel function. In contrast only 8% of the patient group given a placebo experienced a similar reduction in their symptoms[6].

L.plantarum studies: There are numerous studies supporting the use of probiotics for IBS[7,8,9] and the most widely researched probiotic strain for IBS is L.plantarum. One clinical study demonstrated an improvement of all the symptoms of IBS in 95% of patients treated with L.plantarum versus 15% of patients treated with the placebo.[5] Another clinical study found that flatulence was rapidly and significantly reduced among patients administered L.plantarum. The results showed that the number of days with abundant gas production halved in patients receiving L.plantarum[10].

THE ADVANTAGE OF DRCAPS™

DRcaps are designed to delay the release of probiotic bacteria, protecting the probiotics from stomach acidity and allowing the probiotics to be most effective where they need to be - **directly in the intestine.**

DR DELAYED RELEASE CAPSULES



*Subject consumed light breakfast 30 minutes prior to dosing DRcaps containing 300mg of lactose, 10mg of which was radiolabelled to allow anterior and posterior images taken every 5 minutes after dosing.

FEATURES

• A specialist probiotic targeting IBS & IBD using lactobacilli strains with established clinical evidence along with Casperome – a Boswellia – lecithin complex • Provides 2 billion viable organisms of L.plantarum, L.acidophilus and L. rhamnosus bacteria per capsule • With DRcaps, a unique delayed release capsule shell that protects sensitive bacteria from stomach acid • Lyophilised, encapsulated and individually sealed to enhance stability • Refrigeration is optional.

HEALTH NEEDS

GUT AND DIGESTION

SPECIALIST HEALTH

SCIENTIFIC REFERENCES

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