



**NEW DIGESTIVE SUPPORT DIETS FROM SPECIFIC  
FOR A HEALTHY MICROBIOME AND  
GUT BARRIER INTEGRITY**



## THE RISK OF LEAKY GUT MAKES IT IMPORTANT TO **MANAGE DIGESTIVE DISORDERS**

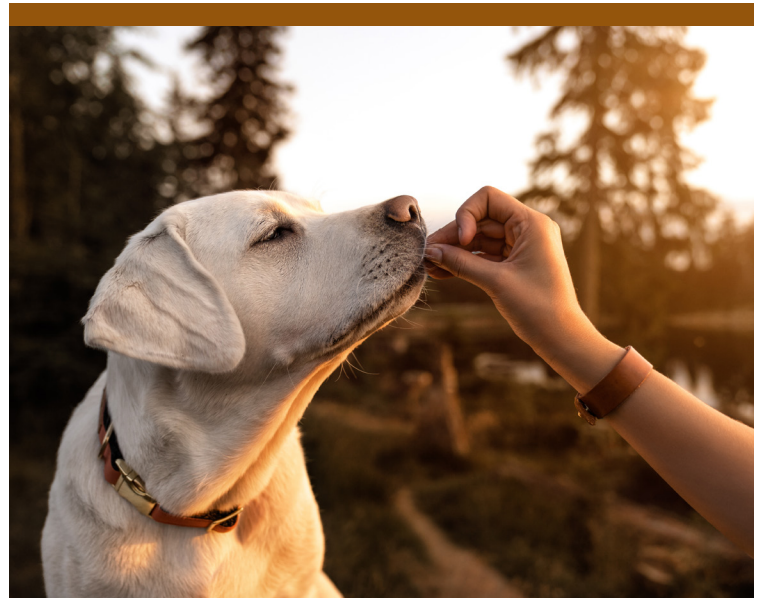
**Prolonged digestive disorders can lead to leaky gut giving rise to much more serious problems**

In a healthy dog or cat, the gut microbiome is balanced, and the gut integrity is intact with 'tight junctions' that allow water and nutrients to pass through, while blocking harmful substances.

Inflammation and the associated oxidative stress can disrupt these tight junctions making the gut barrier permeable – leaky gut (increased intestinal permeability).

**Leaky gut allows bacteria and other toxins to pass the gut barrier into the gut mucosa or even the bloodstream causing the development and progression of many, more serious, diseases, with the underlying cause often being missed, including:**

- Digestive issues (diarrhoea, vomiting)
- Colitis and IBD
- Skin problems (allergies)
- Joint issues (inflammation)
- Behavioural problems
- Nutritional deficiencies
- Liver complications
- Immune system problems
- Respiratory issues
- Ear problems

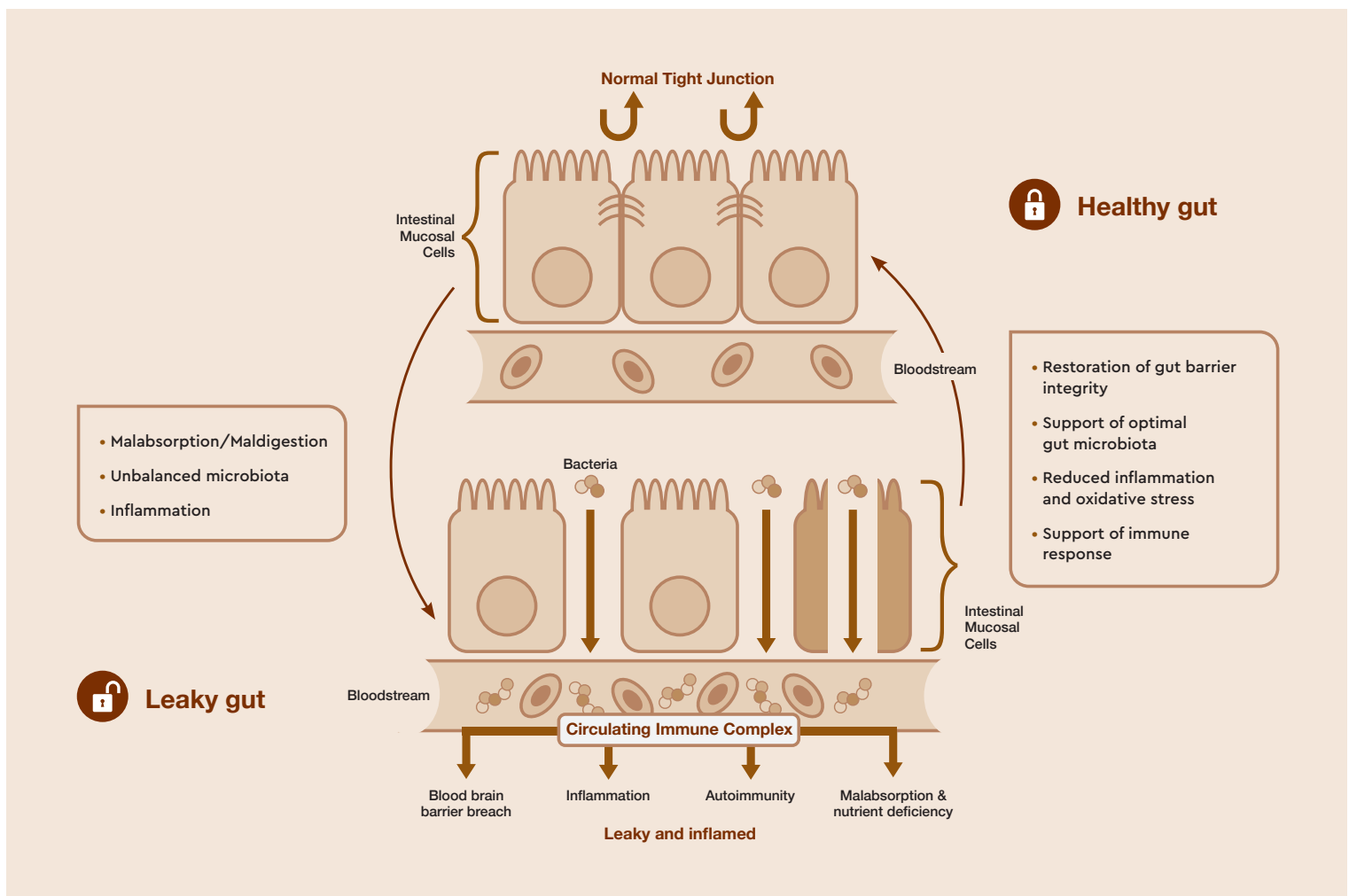


Many cases of leaky gut arise from gradual and long term intestinal damage caused by issues such as food allergies, long-term antibiotic or prolonged periods of digestive malabsorption and maldigestion.

Prolonged periods of digestive malabsorption and maldigestion can unbalance the microbiome with an overgrowth of adverse bacteria and reduced presence of beneficial bacteria, giving rise to inflammation.

While short term exposure to these triggers may not always cause leaky gut, longer term exposure may damage the gut integrity, potentially resulting in even more serious conditions.

**Digestive disorders need to be managed to avoid them becoming something more serious**





## SPECIALIST DIGESTIVE SUPPORT DIETS ARE A VALUABLE TOOL FOR THE MANAGEMENT OF GI DISORDERS



**Fasting** – generally not appropriate to fast during GI-problems as a lack of nutrients for the enterocytes will cause the villi to shorten and the integrity of the gut wall to get even worse



**Antibiotics** – Suitable in case of serious pathogenic infections, but just routine antibiotic use will also reduce beneficial gut bacteria and will contribute to microbial resistance



**Bland home-made chicken and rice diet** - gives the digestive system some rest and helps relieve diarrhoea or vomiting but is not nutritionally complete so only a very short-term option and does nothing to support the microbiome or gut integrity



**Specialist digestive diets** - Nutritionally complete diets that provide the immediate nutritional needs, with highly digestible ingredients and increased levels of vitamins and minerals but also with specialist nutrients to help restore full gut health



## SPECIFIC DIGESTIVE SUPPORT DIETS

**SPECIFIC Digestive Support diets contain ingredients for the immediate nutritional needs of GI compromised patients**

- Highly digestible ingredients to ensure optimal uptake of nutrients
- A high content of minerals and fat-soluble vitamins to compensate for compromised absorption
- Increased level of electrolytes to compensate for losses from diarrhoea and vomiting

**SPECIFIC's Digestive Support diets also contain ingredients to restore full gut health**

- Supporting a healthy microbiome
- Supporting gut barrier integrity
- Supporting a balanced inflammatory response



**AuraGuard** – a new ingredient in our Digestive Support diets based on natural polyphenol containing plant extracts supporting gut barrier integrity



**Post-biotics** – the second new ingredient in our Digestive Support diets is a postbiotic that supports a healthy gut



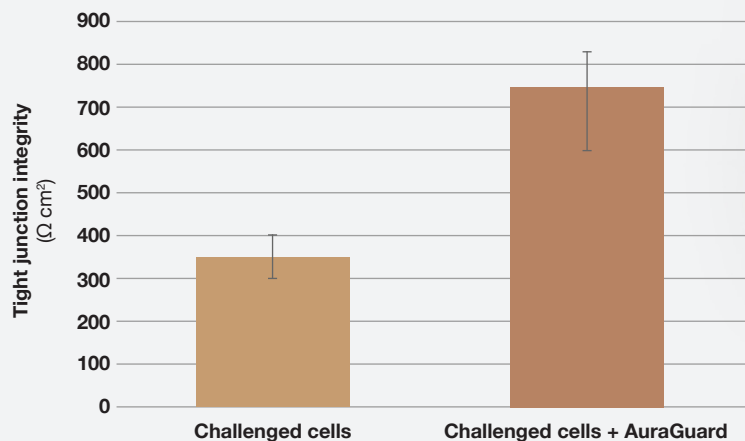
**With beta-glucans and beneficial fibres** – to support the immune response and intestinal health

## SUPPORTING GUT BARRIER INTEGRITY

The gut barrier depends on the integrity of the tight junctions and the protection of a mucous layer lining the mucosa.

- **AuraGuard supports the tight junction** integrity by increasing the level of occludin and ZO-1, cell proteins for the formation, maintenance and structure of tight junctions
- **AuraGuard increases mucous production** by Goblet cells as first line of defense of the gut mucosa

### IMPROVEMENT OF TIGHT JUNCTION INTEGRITY IN INFECTED CANINE CELLS BY AURAGUARD



(adapted from Balta et al. 2021)

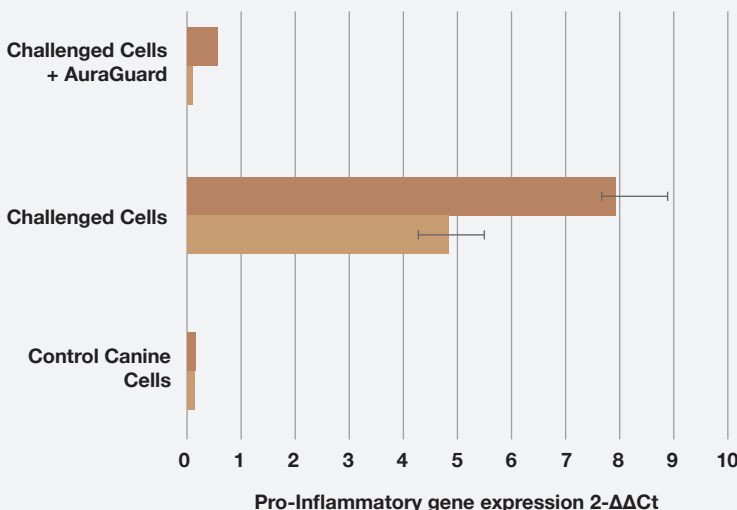


## BALANCING THE INFLAMMATORY RESPONSE

The inflammatory response of the immune system to unbalanced microbiota, gut permeability and exposure to pathogens and allergens further reduces the gut barrier integrity and may, eventually when chronic, also affect the systemic inflammatory status.

- **AuraGuard reduces the production of pro-inflammatory cytokines** (IL-6 and IL-8) in challenged cells
- **High levels of EPA and DHA** omega-3 from fish help to support the body's natural anti-inflammatory processes
- **Postbiotics and beta-glucans** have the potential to help support a balanced inflammatory response (Lin et al. 2019; Li et al. 2006)

### AURAGUARD REDUCED THE PRODUCTION OF PRO-INFLAMMATORY CYTOKINES IN CHALLENGED CANINE CELLS



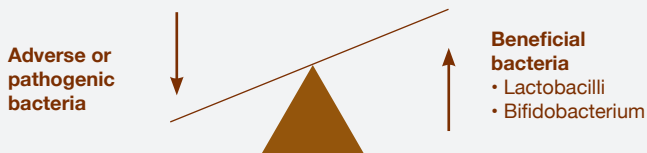
(adapted from Balta et al. 2021)





## SUPPORTING A HEALTHY MICROBIOME

SPECIFIC's Digestive Support diets contain multiple ingredients to restore a balanced microbiome and bring the gut back into good health



Promotion of the growth of beneficial bacteria can increase the production of short chain fatty acids such as butyrate, an important energy source for the enterocytes. An increase in beneficial bacteria can promote the villi length of the gut mucosa (increasing the absorption capacity) and help to support the immune response and a healthy gut.

- **Postbiotics are healthy bioactive compounds produced by beneficial micro-organisms**, supporting the immune system and supporting a balanced inflammatory response of the immune system (Lin et al. 2019)
- **AuraGuard increases the levels of beneficial bacteria** such as Lactobacilli and Bifidobacterium and postbiotics can increase the relative abundance of Bifidobacterium spp species promoting a more balanced and diverse gut microbiome
- **AuraGuard reduces bacterial motility and biofilm formation** (virulence factors) reducing the ability of pathogenic bacteria to colonise the gut and evade the immune system
- **Mannan-oligo-saccharides (MOS)** can **bind pathogenic bacteria**, preventing them from binding to the intestinal wall
- **Fermentable fibres** (beet pulp, XOS and FOS) promote the growth of beneficial colonic bacteria for support of a healthy gastrointestinal tract

## WHAT ARE POSTBIOTICS?



### PROBIOTICS

**Good micro-organisms** that help break down and digest food and promote a healthy digestive tract

+



### PREBIOTICS

**Generally fibres** that provide fuel for probiotics that supports their growth and function

### RESULT IN



### POSTBIOTICS

**Beneficial compounds** including residual micro-organism cells, micro-organism cell wall fragments, fermentation metabolites and media used during fermentation generated by pre + probiotics providing positive effects on gut health and immune function by increasing the abundance of beneficial microbiota and the immune capacity



## WHY GUT HEALTH MATTERS

**While not all diseases begin in the gut, many chronic metabolic diseases do.**

The gut has many roles beyond basic digestion. Recent studies see it involved in a wide range of life processes, including energy needs, metabolism, immunological activity, and neuro-behavioural development (Mondo et al. 2019).

The microbiota is made up of the trillions of micro-organisms (bacteria, viruses, fungi and protozoa) – a healthy gut is one in which the micro-organisms in the microbiome are balanced.

Functional or structural disturbances in the gut and unbalanced microbiome have been linked with the development and progression of many diseases, including autoimmune and inflammatory conditions and metabolic disorders as obesity and diabetes as well as reduced nutrient absorption.

All disease  
begins in  
the gut

Hippocrates

## NEW DIGESTIVE SUPPORT LOW FAT DIETS

**NEW Digestive Support Low Fat diets for dogs for nutritional support of a wide range of gastrointestinal conditions that benefit from a low level of dietary fat such as pancreatitis, EPI, protein-losing enteropathy, lymphangiectasia, cholestasis and hyperlipidemia.**



A combination of low fat with high levels of EPA and DHA and hypoallergenic ingredients make this diet suitable for a wide range of digestive disorders

- **Exceptionally low fat levels at 7% of dry matter** - make these diets suitable for the management of both moderate and severe cases of pancreatitis and cholestasis
- **Low fat level and high levels of EPA and DHA omega-3 from fish**, reducing triglyceride levels, make this diet suitable for the management hyperlipidemia, which is considered as a potential cause of pancreatitis (Xenoulis et al. 2020)
- **With hypoallergenic ingredients, hydrolysed salmon, tapioca, rice protein and potato protein**, this diet is also suitable for dogs with IBD and food allergies and for feeding during periods of reduced intestinal gut barrier

## NEW DIGESTIVE SUPPORT LOW FAT DIETS DIETARY CHARACTERISTICS

- **Low fat level at 7% of dry matter**
- **High digestibility** to ensure optimal intake of nutrients
- **With beneficial fibres, beta-glucans, fish oil and a blend of natural ingredients** to support a healthy gut microbiome, immune response and barrier function of the gut
- **Low allergenicity for support of GI-disorders** with potential involvement of adverse food reaction (the diet is based on tapioca, hydrolysed salmon, rice protein and potato protein)
- **High levels of EPA and DHA omega-3** from fish supporting the body's natural anti-inflammatory processes
- **Supplementation with free nucleotides** supports both immune function and rapid repair of the gut, increasing villi length, aiding nutrient absorption and speed of return to full digestive health
- **Supplementation with AuraGuard** – A mixture based on natural polyphenol-containing plant extracts, supporting gut barrier integrity and intestinal health.

Balta I et al. (2021) Mixtures of natural antimicrobials can reduce *Campylobacter jejuni*, *Salmonella enterica* and *Clostridium perfringens* infections and cellular inflammation response in MDCK cells. *Gut Path* 13: 37.

Li J et al. (2006) Effects of  $\beta$ -glucan extracted from *Saccharomyces cerevisiae* on growth performance, and immunological and somatotropic responses of pigs challenged with *Escherichia coli* lipopolysaccharide. *J Anim Sci* 84: 2374-2381.

Lin CY et al. (2019) Effects of a *Saccharomyces cerevisiae* fermentation product on fecal characteristics, nutrient digestibility, fecal fermentative end-products, fecal microbial populations, immune function and diet palatability in adult dogs. *J Anim Sci* 97: 1586-1599.

Mondo E et al. (2019) Role of gut microbiota in dogs and cat's health and diseases. *Open Vet J* 9 (3): 253-258.

Xenoulis PG et al. (2020) Serum triglyceride and cholesterol concentrations and lipoprotein profiles in dogs with naturally occurring pancreatitis and healthy control dogs. *J Vet Intern Med* 34: 644-652.



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