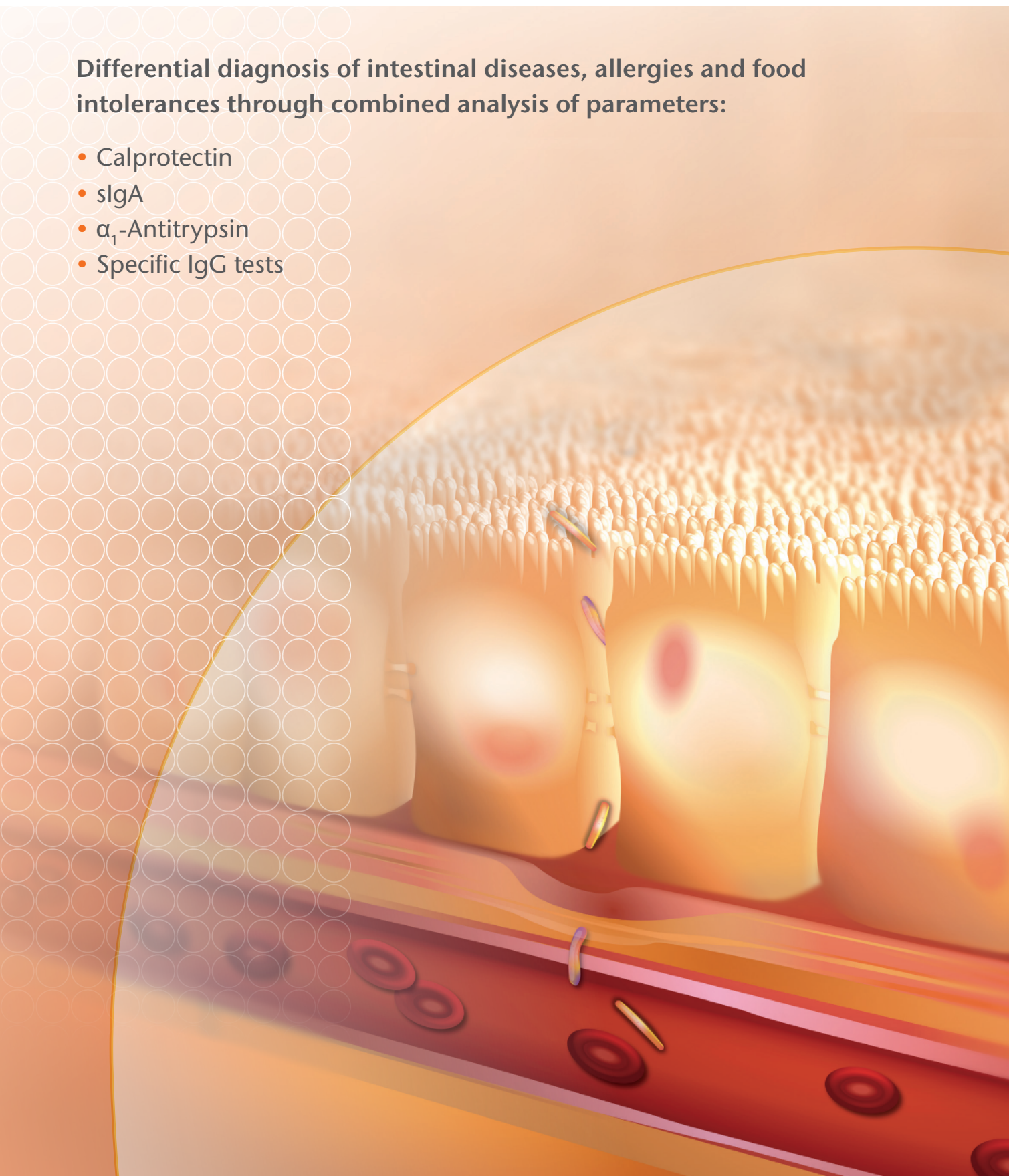


Leaky Gut Syndrome

Differential diagnosis of intestinal diseases, allergies and food intolerances through combined analysis of parameters:

- Calprotectin
- sIgA
- α_1 -Antitrypsin
- Specific IgG tests



● Healthy gut – Healthy body

The gut plays an important role in our health. In addition to the tasks of digestion and nutrient absorption, the gut is a major component of our immune system.

When intact, the intestinal wall serves as a protective barrier that prevents harmful substances from entering the bloodstream. If impaired by poor nutrition, medications or other triggers, harmful substances can escape the intestine and infiltrate the body because the barrier is not fully intact. This condition is known as Leaky Gut Syndrome.

The main components of a healthy, functional intestine are as follows:

- Intact intestinal microflora (bacterial colonization)
- Intact intestinal mucosa with regular production of mucosal mucus and secretory immunoglobulin A (sIgA) to ward off foreign substances
- Intact epithelial cell layer with functional tight junctions

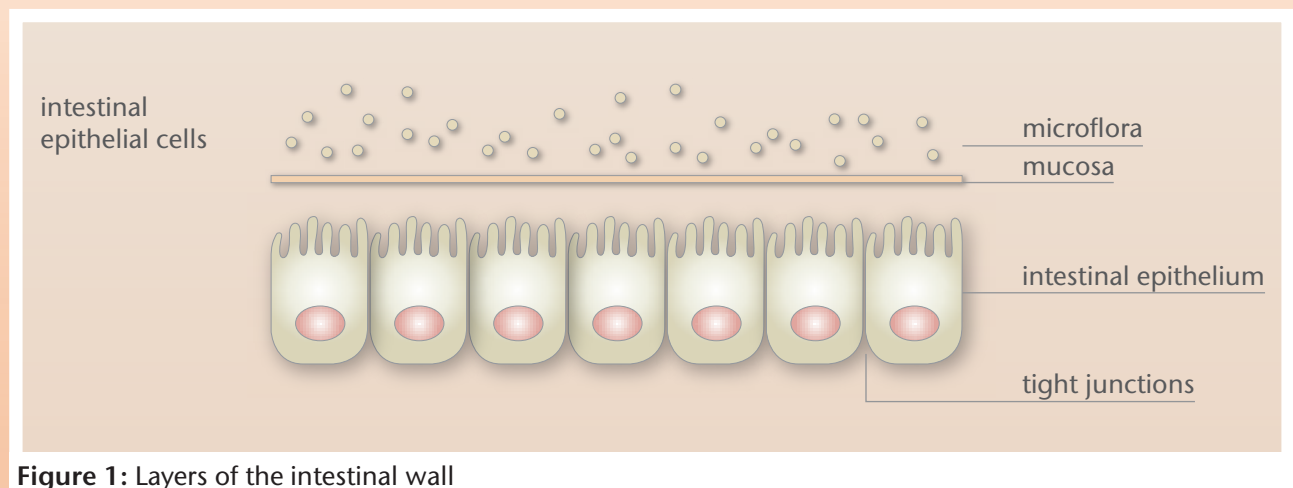


Figure 1: Layers of the intestinal wall

The intestinal bacterial **microflora** serves in the digestion of food components. The intestinal flora is involved in the defense against harmful bacteria and fungi and prevents them from colonizing the intestine.

The **intestinal mucosa** contains mucosal mucus produced by glandular cells of the intestinal epithelium. It protects the intestinal epithelium

from acids and digestive juices and protects it from harmful substances with the help of sIgA. Nutrients enter the bloodstream via the **intestinal epithelium**. The passage of nutrients occurs through cells of the intestinal epithelium or through intercellular spaces (tight junctions). Only certain types of substances and substances of a specific size are allowed to pass.

● Leaky Gut and its consequences

Damage to one of the intestinal wall layers can lead to abnormal intestinal permeability, resulting in Leaky Gut Syndrome. The consequence of increased intestinal permeability is that substances that would normally be filtered out of a healthy gut enter the bloodstream. In other words, the gut becomes “leaky”.

Toxins and undigested food components that are able to enter the bloodstream due to increased intestinal permeability can cause a variety of different diseases characteristic of Leaky Gut Syndrome.

Diseases related to Leaky Gut Syndrome

- Chronic inflammatory bowel disease (IBD)
- Irritable bowel syndrome (IBS)
- Food intolerances or delayed food allergies (type III)
- Asthma
- Type 2 diabetes mellitus
- Chronic iron deficiency
- Malabsorption syndrome
- Overweight
- Autoimmune diseases, etc.

● Detection of Leaky Gut – Diagnostic parameters

Because the status of Leaky Gut is dependent on many parameters (intestinal mucosa, microflora, intestinal epithelium and tight junctions), we recommend the combined testing of multiple

parameters. The determination of these parameters provides information on the status of the intestine, thus allowing targeted treatment and treatment monitoring.

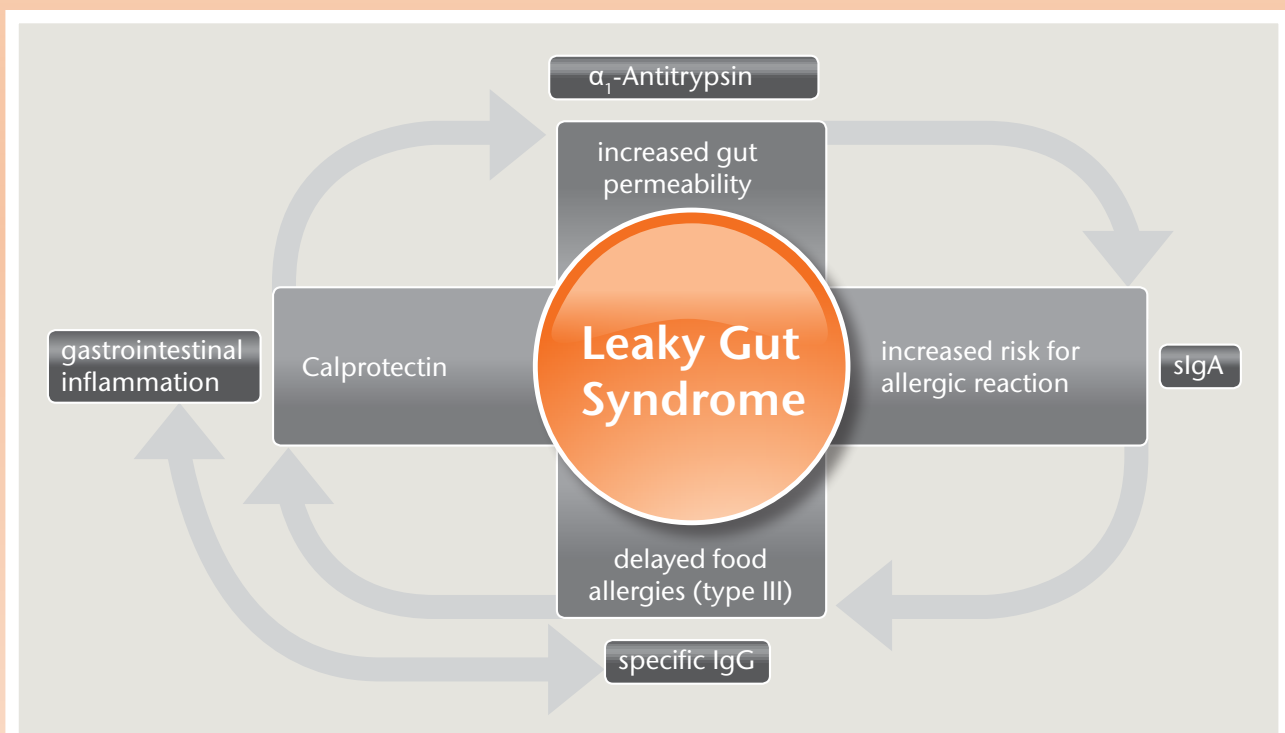


Figure 2: Symptoms of Leaky Gut Syndrome and the corresponding diagnostic parameters

● Detection of Leaky Gut – Diagnostic parameters

slgA is part of the immune system. It is released into the intestine to bind and excrete harmful substances. Low slgA levels indicate a reduced efficacy of the intestinal barrier in scavenging such substances.

IgG is an antibody formed by the immune system to fight off foreign substances in the blood. The presence of specific IgG antibodies against certain foods indicates a delayed food allergy (type III), which is caused by a Leaky Gut. This can lead to inflammation, which can further increase the permeability of the gut if it becomes chronic.

Calprotectin is a sensitive marker of inflammation that is used to distinguish between irritable bowel syndrome and chronic inflammatory bowel disease.

Increased calprotectin levels (> 50 mg/kg) indicate an inflammatory situation in the bowel. Low calprotectin levels may be a sign of irritable bowel syndrome or IgG-mediated food allergy.

α_1 -Antitrypsin is produced in the liver. It is not normally present in the intestines and, if so, only in very low concentrations. α_1 -Antitrypsin is an indicator of increased intestinal permeability and a marker of inflammatory activity in the intestine.

Combined analysis of these parameters allows the clinician to obtain a differentiated picture of the status of the intestine to successfully monitor the efficacy of treatment.

Product	Description	Tests	Matrix	Art. No.
RIDASCREEN® α_1 -Antitrypsin	Enzyme immunoassay for the detection of α_1 -Antitrypsin	96	stool	G09034
RIDASCREEN® slgA	Enzyme immunoassay for the detection of secretoric IgA	96	stool	G09035
RIDASCREEN® Calprotectin	Enzyme immunoassay for the detection of calprotectin	96	stool	G09036
RIDASCREEN® Foodscreen	Enzyme immunoassay for the detection of spec. IgG against food. Different combinations of allergens are available.	15 plates per kit	serum/ capillary blood	A8021 A8101 A8121-15 A8221-15 A8321-15 A8621-15 A8921

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