

INTESTINAL PERMEABILITY

(Leaky Gut)

What is Intestinal Permeability?

Intestinal Permeability (i.e. “Leaky Gut”) is a condition where the integrity of the intestinal cell barrier is compromised/broken down. Normally, our intestinal cell network forms a very important barrier between our digestive tract (outside environment) and our blood stream (inside environment). With Intestinal Permeability, the barrier is broken down and intestinal contents can enter the blood stream.

Why test for Intestinal Permeability ?

Intestinal Permeability has many possible physiological ramifications. The purpose of testing for Intestinal Permeability is to accurately identify the root cause condition so your physician can recommend an intervention protocol.

What are symptoms of Intestinal Permeability ?

Health conditions associated with untreated intestinal permeability are classified in 3 groups: **Digestive, Systemic, and Autoimmune.**

- 1 Digestive:** Inflammatory Bowel disease, IBS (gas, bloating, constipation reflux), and food sensitivities.
- 2 Systemic:** Depression, anxiety, migraine headaches, muscle pain, chronic fatigue, anxiety, mood swings, brain fog, and micronutrient deficiencies.
- 3 Autoimmune:** Celiac disease, rheumatoid arthritis, Type 1 Diabetes, asthma, and Hashimoto's thyroiditis.

What causes Intestinal Permeability ?

Dietary factors

Refined sugar
High starch diet
Gluten in grains
Casein in dairy
Alcohol

Dietary factors

Excessive stress
Smoking tobacco

Medications

Antibiotics
NSAIDS
(nonsteroidal anti-inflammatory drugs)

Gut conditions

Dysbiosis
SIBO
Yeast overgrowth/Candida albicans
Parasites
Low gastric acid production

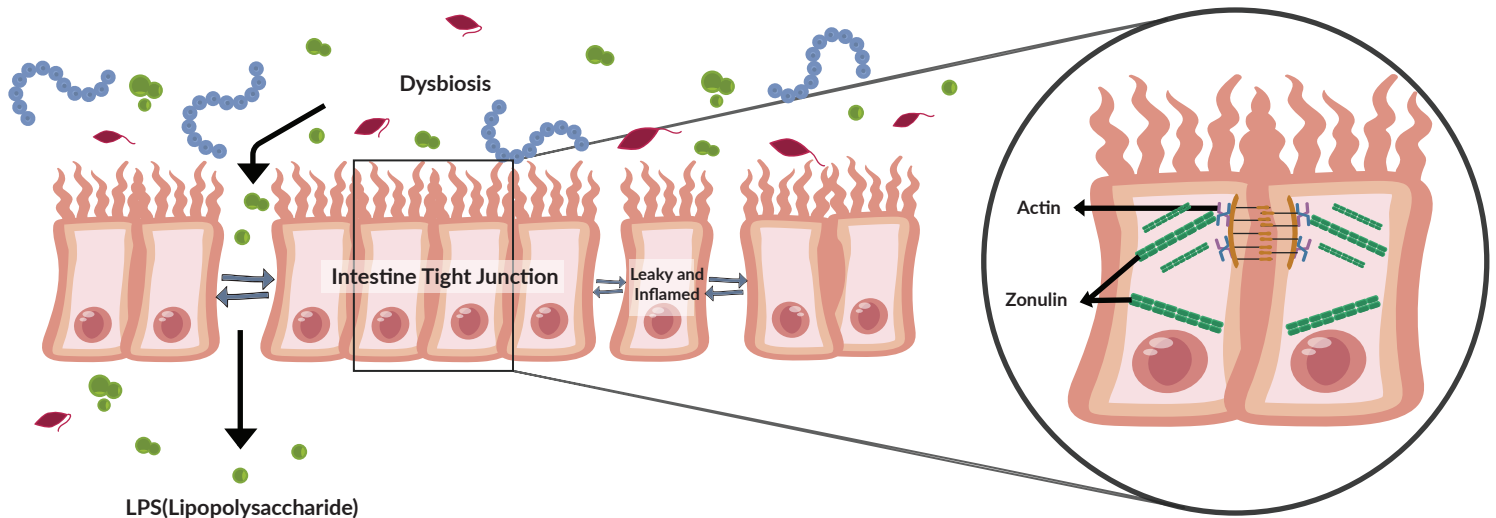


Regulatory Statement:

This information is provided for educational purposes only. Vibrant Wellness does not diagnose, treat or prescribe for any health condition. This test has been laboratory developed and its performance characteristics determined by Vibrant America, a CLIA-certified laboratory performing the test. The test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). Although FDA does not currently clear or approve laboratory-developed tests in the U.S., certification of the laboratory is required under CLIA to ensure the quality and validity of the tests.

Vibrant's Intestinal Permeability Test

The Intestinal Permeability panel available through Vibrant Wellness measures Zonulin levels and blood antibodies to three important biomarkers: **Zonulin**; **Actin**; **LPS (lipopolysaccharide)**.



Zonulin

- ❑ Discovered in the early 2000's, zonulin is a protein found in the tight junctions of our intestinal epithelial cells. Zonulin is a "gate keeper protein" and plays a critical role in the structure and health of tight junctions in the intestines. Tight junctions are the main barrier between our digestive tract and our blood stream. If zonulin is elevated in the blood or antibodies are present, this is an indication that tight junctions have been broken down and the barrier has been damaged.
- ❑ Bacterial dysbiosis and gluten in the diet are 2 known factors to cause zonulin release from the tight junctions.
- ❑ The blood brain barrier has zonulin receptors. Zonulin can bind to these receptors and open the tight junctions of the brain. This demonstrates the connection between "leaky gut" and "leaky brain".

Actin

- ❑ Actin is a muscle protein that has structural and mechanical roles in the small intestine. In the microvilli, actin is involved in cell division, growth, and repair. Actin also serves to anchor the microvilli to the cell membrane barrier and to attach intestinal cells together.
- ❑ When antibodies to actin are present in the blood stream this can indicate compromised structural integrity of intestinal tight junctions or microvilli.

LPS
(Lipopolysaccharide)

- ❑ Our digestive tract is home to trillions of microorganisms (i.e. the Gut Microbiome) which includes both gram (+) and gram (-) bacteria. Lipopolysaccharide is a component of the cell wall on gram (-) bacteria. Only with intestinal permeability, LPS will enter the blood stream and our bodies will produce LPS antibodies.
- ❑ If it enters the blood, LPS is a powerful mediator of inflammation and has been implicated in a variety of chronic diseases including cardiovascular disease, metabolic syndrome, chronic fatigue, obesity, depression, and autoimmune disease, etc.

