

INTESTINAL ANTIGENIC
PERMEABILITY SCREEN

ARRAY 1
MUCOSAL GLUTEN
REACTIVITY SCREEN

ARRAY 3
WHEAT/GLUTEN
PROTEOME REACTIVITY
AND AUTOIMMUNITY

ARRAY 4
GLUTEN-ASSOCIATED
CROSS-REACTIVE FOODS
AND FOODS SENSITIVITY

ARRAY 5
NEUROAUTOIMMUNITY
PANEL

ARRAY 2

BLOOD SERUM



ARRAY 2 – Antibody

INTESTINAL ANTIGENIC PERMEABILITY SCREEN™

- ▶ Reverse or arrest the autoimmune process by early Intestinal Permeability Identification (IPI)
- ▶ Measure intestinal permeability to large molecules which challenge the immune system
- ▶ Define the damaging route through the intestinal barrier
- ▶ Identify the activation of the inflammatory response system
- ▶ Detect mucosal causes of autoimmune diseases at early stages

WHERE INNOVATION HAPPENS™

 **CYREX™**
Laboratories

INTESTINAL ANTIGENIC PERMEABILITY SCREEN™

- Actomyosin IgA
- Occludin/Zonulin IgG
- Occludin/Zonulin IgA
- Occludin/Zonulin IgM
- Lipopolysaccharides (LPS) IgG
- Lipopolysaccharides (LPS) IgA
- Lipopolysaccharides (LPS) IgM

Serum Specimen

The intestinal epithelium of the gastrointestinal (GI) system is the largest mucosal surface, providing a barrier between the host and the external environment. The primary functions of the GI tract are digestion, absorption of nutrients, water homeostasis, and the regulation of macromolecules trafficking between the environment and the gut submucosa. Occludin/zonulin is a signaling protein that transiently and reversibly opens the tight junctions between cells of epithelial and endothelial tissues. The actomyosin network anchors junctions and provides structure to epithelial cells. The components of the intestinal barrier work in concert to protect the rest of the body. If one of these elements is dysregulated, the host is at risk for autoimmunity or neurodegeneration. Thus, measuring a patient's Intestinal Permeability Identification (IPI) is an important step in the whole body health program.

A cross-communication with gut-associated lymphoid tissue, the neuroendocrine network, and the intestinal barrier—with its intercellular tight junctions—regulate the equilibrium between tolerance and immunity to nonself-antigens. The destruction of the intestinal barrier's integrity, commonly caused by gram-negative bacteria, results in release of occludin/zonulin (paracellular destruction). These antigens are presented to T- and B-cells, resulting in the production of IgA, IgM, and IgG autoantibodies against self-occludin/zonulin, actomyosin, and the triggering factor LPS. Measurements of these autoantibodies can be used as an early biomarker of GI disorders and autoimmune diseases.

The development of autoimmunity requires three ingredients: genetic predisposition, an environmental trigger (antigen) and, finally, transportation of the antigen—such as lipopolysaccharides (LPS)—

through the GI barrier into the gut submucosa. LPS, and other unwanted antigens in the blood, can contribute to the onset of intestinal and extra-intestinal chronic disorders such as Chronic Fatigue Syndrome and depression. The translocation of LPS from gut lumen and submucosa produces both inflammatory immune and central neuroinflammatory responses, which ultimately breach the blood-brain barrier, resulting in neuroautoimmunity.

Intestinal barrier integrity plays a vital role in the overall health and well-being of patients. Those with a family history of autoimmunity or neurodegeneration should be assessed regularly. In addition, patients who present with multiple symptom complaints or complain of food allergy or intolerance may have increased intestinal barrier permeability. IPI, through the measurement of antibodies to occludin/zonulin, actomyosin, and lipopolysaccharide, provides an excellent method for any Healthcare Practitioner.

Recommended for patients who:

- Have gut dysbiosis, which appears to be resistant to standard therapy
- Are suspected of having intestinal mucosal damage
- Complain of food allergy and intolerance
- Present multiple symptom complaints (including Chronic Fatigue Syndrome)
- Suffer from abnormal immune cell count and function (including autoimmune diseases)
- May suffer from blood-brain barrier permeability, depression, or neuroautoimmunity

For more detailed information about this test, including the Clinical Application Guide and related references, please visit www.CyrexLabs.com.

Specimen Requirement:
2 mL serum

