



## ZONULIN (serum)

*Zonulin, a novel human protein, regulates intestinal barrier function, the functional doorway to inflammation, autoimmunity and gastrointestinal diseases. The gastrointestinal tract has traditionally been perceived to be limited to the digestion and absorption of nutrients. Zonulin has been found to modulate the permeability of tight junctions between cells of the walls of the digestive tract.*

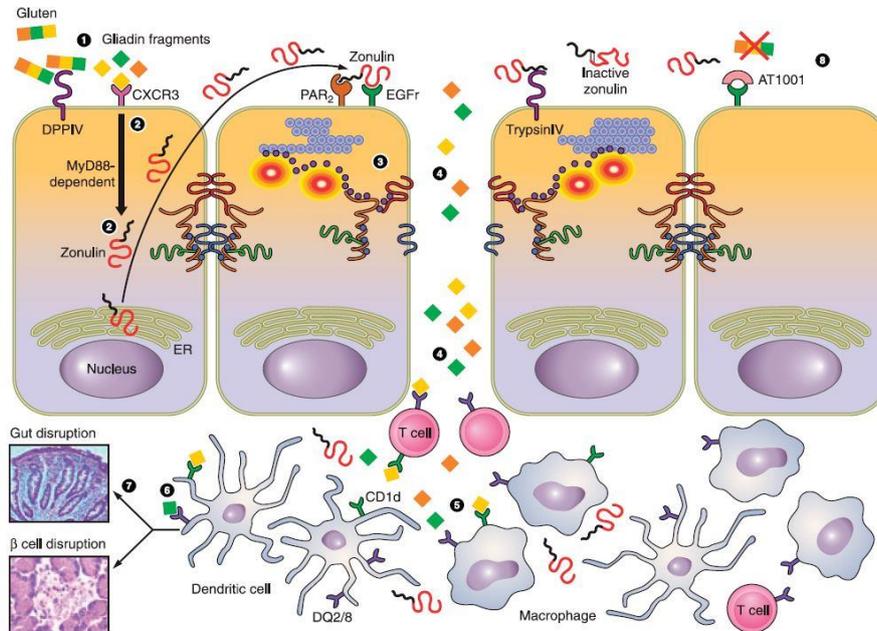
*Genetic predisposition, miscommunication between innate and adaptive immunity, exposure to environmental triggers, and loss of intestinal barrier function secondary to the activation of the Zonulin pathway by food-derived environmental triggers or changes in gut microbiota all seem to be key ingredients involved in the pathogenesis of inflammation, autoimmunity and cancer.*

The gastrointestinal tract's role is to regulate the trafficking of macromolecules between the environment and the host through a barrier mechanism. Together with the gut-associated lymphoid tissue and the neuroendocrine network, the intestinal epithelial barrier, with its intercellular tight junctions, Dr Alessio Fasano from the University of Maryland School of Medicine, has demonstrated that Zonulin plays a role in the equilibrium between tolerance and immunity to non-self antigens.

The Zonulin pathway has been exploited to deliver drugs, macromolecules, or vaccines that normally would not be absorbed through the gastrointestinal mucosal barrier. However, if the tightly regulated trafficking of macromolecules is jeopardized secondary to prolonged Zonulin up-regulation, the excessive flow of antigens in the intestinal mucosa can cause both intestinal and extra-intestinal autoimmune disorders in genetically susceptible individuals. It is seen as the regulator of intestinal barrier function, the biologic door to inflammation, auto-immune disease and cancer.

### SYMPTOMS AND CONDITIONS ASSOCIATED WITH FOOD SENSITIVITY

Leaky gut	Ankylosing spondylitis
Bacterial Infection	Schizophrenia
Parasitic infections	Neoplastic disease
IBS	Pancreatic cancer
Chron's disease	Glioma
Diabetes	Asthma



### CONDITIONS WHICH MAY BENEFIT FROM ZONULIN TESTING

Leaky gut	Mental health disturbances
Coeliac disease	Gut conditions, IBS
Gluten and gliadin intolerance	Inflammatory bowel diseases

## ZONULIN (serum) [Test code: 2023]

❖ Zonulin

### Other permeability tests available

- **Intestinal permeability (urine) [2011]:** Lactulose % recovery, Mannitol % recovery, Lactulose: Mannitol ratio
- **Zonulin & Gluten Sensitivity Genetic Test (blood & buccal swab) [2024]:** Zonulin, HLA-DQB1 molecular analysis

### How to order a test kit:

To order a test kit simply request the test name or test code on a Well Lab request form and have the patient phone Well Lab Customer Service on 03 2727 7434.



Phone 03- 2727 7434 for further details  
[www.malaysialaboratory.com](http://www.malaysialaboratory.com)

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