# *IDK®* Zonulin


## ELISAs for the determination of zonulin family peptides (ZFP)

- Biomarker for **increased permeability of intestinal barrier**
- **Celiac disease**
- **Type 1 diabetes**

Worldwide exclusive!

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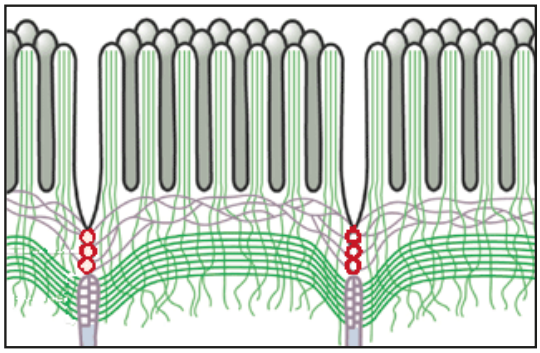
# *IDK*® Zonulin

## Understanding the dynamic interaction between zonulin familiy peptides and type 1 diabetes mellitus

Zonulin is a human protein analogue to the zonula occludens toxin derived from *Vibrio cholerae* which regulates tight junctions of the digestive tract. Zonulin binds to a specific receptor on the surface of intestinal epithelia and triggers a cascade of biochemical events which induces tight junction disassembly and a subsequent permeability increase of the intestinal epithelia, allowing some substances to pass through and activate immune reactions.

Fasano and his co-workers found that the zonulin system is more activated in celiac disease and type 1 diabetes mellitus patients. Patients with active celiac disease showed higher levels of zonulin and anti-zonulin antibodies compared to non-celiac patients and patients in remission, who were on a gluten-free diet.



An increased intestinal permeability, also colloquially called **'leaky gut',** is nowadays associated with the metabolic syndrome, obesity, and several autoimmune, inflammatory, and neoplastic diseases. Based on evidence, leaky gut plays a meaningful role in diseases such as multiple sclerosis, rheumatoid arthritis, asthma, and inflammatory bowel diseases.

The polyclonal anti-body used in our ELISA is based on the zonulin sequence as published by Wang (Journal of Cell Science, 2000) and di Pierro (Journal of Biological Chemistry, 2001).

Correspondingly, the readings of ***IDK***® Zonulin ELISA detecting zonulin family peptides correlate well – as already found in many papers – with established metabolic traits linked to increased gut permeability, such as insulin resistance and obesity.

| ***IDK***® **Zonulin** | |
|---|---|
| Matrix | **Stool** |
| Sample volume | 15 mg |
| Test principle | ELISA |
| Cat. No. | K 5600 |

| ***IDK***® **Zonulin** | |
|---|---|
| Matrix | **Serum** |
| Sample volume | 25 µl |
| Test principle | ELISA |
| Cat. No. | K 5601 |


Literature:

1. **Fasano A et al. (2000)** Zonulin, a Newly Discovered Modulator of Intestinal Permeability, and Its Expression in Coeliac Disease. *Lancet* 355(9214):1518-9.
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4. **Di Pierro M et al.** (2001) Zonula occludens toxin structure-function analysis. Identification of the fragment biologically active on tight junctions and of the zonulin receptor binding domain. *J Biol Chem* 276(22):19160-5
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8. **De Magistris MT (2006)** Zonula Occludens Toxin as a New Promising Adjuvant for Mucosal Vaccines. *Vaccine* 24 Suppl 2:S2-60-1.
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