

## **GLIADIN INDUCES OCCLUDIN DOWN-REGULATION AND TIGHT JUNCTIONS DISASSEMBLY IN HUMAN INTESTINE**

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**Aim:** to investigate the effect of gliadin on the intestinal barrier function using duodenal biopsies obtained from celiac disease (CD) treated patients.

**Methods:** intestinal biopsies were mounted in the polarized microsnapwell system and exposed to gliadin added to the luminal (mucosal) side of the tissue. Transepithelial electrical resistance (TEER) was measured and occludin mRNA expression evaluated using PCR Real Time with the TaqMan probes technique.

**Results:** Gliadin induced a time-dependent decrement in both TEER and occludin mRNA expression. No significant changes were observed in untreated tissues. Interestingly, intestinal tissues obtained from healthy subjects and exposed to gliadin showed a decrease of the mRNA occludin similar to that observed in CD-derived tissues.

**Conclusions:** gliadin induces a decreased occludin expression both in healthy and CD intestinal tissues. This changes lead to an increased permeability of intercellular tj. These results suggest that gliadin may play a pivotal role in facilitating its own passage to the submucosal compartment.