

"Le fils de l'homme" R. Magritte - 1964



FOOD SUPPLEMENTS

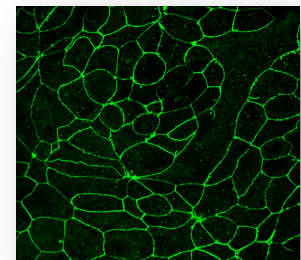
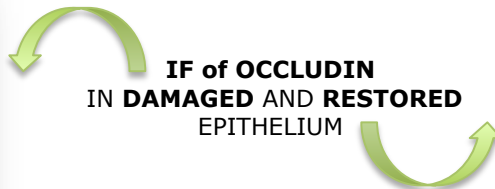
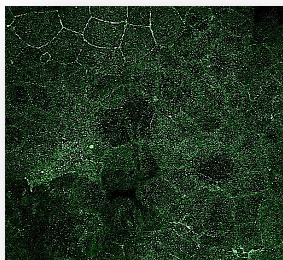
ESCHERICHIA COLI INVASION MODEL on Caco-Goblet® cells

The bacterial's adhesion to the intestinal mucosa is a crucial event for the beginning of the infectious process. One of the consequences of pathogenic bacteria on the brush border is the lesion of the epithelium, which allows the bacteria proliferation, the consequent death of epithelial cells and related gastrointestinal diseases.

VitroScreen has developed a predictive *E.coli* invasive model on Caco-Goblet® cells to evaluate the efficacy of probiotics, prebiotics, synbiotic, medical devices and drugs:

- directly blocking intestinal pathogenic microbes by producing antibacterial substances
- decreasing the adhesion of pathogens to the gastrointestinal tract through their bioadhesive properties

Occludin and Zonula Occludens-1 proteins are visualized by IF with confocal microscopy



The tight junctions, intercellular junctions composed by a sticky filament network, represent a fundamental target of the intestinal mucosa integrity: thus the product barrier and bioadhesive properties could be investigated by monitoring the efficacy in reinforcing the tight junction structure.

***E. Coli*
INVASION OF
CACO-GOBLET:**

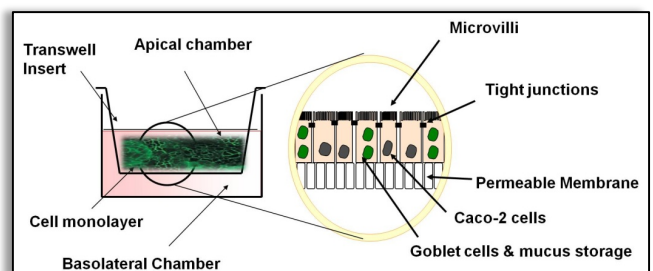
Deep impact on the mucosa structure leading to tight junction damage and related diseases

MECHANISM BASED ASSAY:
ASSESSMENT OF
INTESTINAL MUCOSA INTEGRITY
BY
TIGHT JUNCTIONS REINFORCING
(IF, LUCIFER YELLOW ASSAY,
TEER MEASURE)

**PREVENTION=
PRE-TREATMENT**

Assessment of products efficacy in preventing or reducing the *E.coli* adhesion by short (1h and 4h) or long term (24h) treatment before *E.coli* direct exposure

The Caco-Goblet® is an intestinal model of colonic cells with mucous secreting goblet cells with an high biological relevance. It is a more permeable model than Caco-2 offering a weaker but more realistic barrier to bacteria, allowing to study transport and mucous interaction taking into account the biological properties of the compounds.



References

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