



Örebro University

SCHOOL OF MEDICAL SCIENCE

Nutrition-Gut-Brain Interactions Research Centre
(NGBI)

STUDY WITH TITLE:

“Investigating effects in intestinal permeability of rich in beta-glucans *Pleurotus eryngii* mushrooms fermentation supernatants: an ex-vivo study”

STUDY PROTOCOL

By using a sigmoidoscopy procedure, colon biopsies will be collected from the subjects, where the collected biopsies will be mounted in Ussing Chambers in order to investigate the effects of the fibre fractions on intestinal permeability. Collected supernatants of *Pleurotus eryngii* mushrooms will be added to the mucosal side of the biopsy together with a stressor and two permeability markers. Samples will subsequently be collected from the serosal side and will be used to measure the permeability markers related to paracellular and transcellular permeability.

STATISTICAL ANALYSIS

All statistical tests will be assessed using One Way ANOVA with a nominal significance level of 5% and post hoc testing of treatment contrasts with Tukey's HSD. The primary endpoint analysis will be based on fibre effect on the intestinal barrier function in terms of FITC passage, and whether there is a difference between treatments across all healthy subjects. Secondary endpoints include HRP quantification (supernatant), TEER values (electrophysiological parameter).