

Microbial perturbations in Crohn's disease

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PROPOSITIONS

belonging to this thesis

Microbial perturbations in Crohn's disease Function matters

Heike Becker

Maastricht, 14 december 2023

- 1) Knowledge on the presence and abundance of bacterial taxa in the intestine is insufficient to draw conclusions on their impact on host and disease outcomes. (this thesis)
- 2) The presence of a bacterial toxin may not always result in pathophysiological effects. (this thesis)
- 3) The fecal microbial secretome of Crohn's disease patients has differential impact on intestinal mucin degradation and epithelial barrier function, while disease activity plays an inferior role. (this thesis)
- 4) IBD drug treatment is accompanied with bi-directional interactions with the fecal microbiota. (this thesis)
- 5) Multi-kingdom *ex vivo* models with multiple functional and clinical read-outs have great potential to unravel individualized microbiome-host-drug interactions in various diseases.
- 6) Expanding today's IBD treatment options by microbiota-activated topical anti-inflammatory drugs will likely increase treatment success and reduce side effects.
- 7) A close collaboration between translational scientists and gastroenterologists is critical to efficiently combat upcoming health issues and in turn to timely implement new findings to improve IBD patient care.
- 8) IBD patients likely benefit by personalized treatment options that take into account the individual intestinal microbial effects on inflammation as well as on drug action. (this thesis)
- 9) Believe those who seek the truth; doubt those who find it; doubt everything, but don't doubt yourself. (André Gide – 1952)
- 10) The personal impact on the environment and animal welfare should be considered when planning and conducting experiments.
- 11) The spirit of science is increasingly restrained due to accumulating financial pressures.