

Plenary Lecture Abstract

What matters most the microbes or their metabolites?**Jerry Wells***The University of Wageningen, The Netherlands*

The mammalian microbiota produces dozens of microbial metabolites some of which accumulate in the bloodstream. Alterations in microbiome-associated metabolite levels and activity are implicated in the pathogenesis of a growing number of illnesses. The origin and influence of specific microbiome-modulated metabolites will be discussed. The first part of the talk focuses on new insights into the anti-inflammatory effects of acetate and evidence for its epigenetic effects outside the gut. The second part of the talk focuses on non-ribosomal synthesized (NRPS) small molecules that have the potential to modulate microbe-microbe and microbe-host interactions. The identification of a mammalian commensal producing a heat-stable and protease-resistant antibiotic via a non-ribosomal peptide synthetase (NRPS) gene cluster will be described. The molecule acts as a potassium ionophore, with antiviral, anti-parasitic and antibacterial activities and was only previously known to be produced by restricted species of soil dwelling *Streptomyces*. The effect of colonisation of piglets with the antibiotic producing strain will be presented.