

Novel Antimicrobials for the inhibition of Sulfate-Reducing Bacteria associated with gut inflammation

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Sulfate Reducing Bacteria live naturally within the gut and are part of the normal gut microbiome that plays a critical role in the health and disease of humans and animals. However, in abundance these bacteria are associated with Ulcerative Colitis and colorectal cancers due to their ability to overproduce a corrosive gas called Hydrogen Sulphide. This triggers a strong immune response from human cells in the gut, causing inflammation and damage to the gut which can contribute to the development of debilitating inflammatory bowel disease such as Ulcerative Colitis that can in extreme cases be life threatening.

Prof Arjan Narbad at the Institute for Food Research and Prof Michael McArthur at the Norwich Research Park at Procarta Biosystems are developing an experimental approach using an antimicrobial that specifically target the bacteria that produce hydrogen sulphide. This project will further our understanding of gut diseases which affect both the quality of life of individuals and the economy. In addition, further development of this technology will inform future projects aimed at modulating the complex human gut microbiome towards a more healthy status.