Ulcerative colitis; too much sulphur compounds in the gut?

Intestinal bacteria may have a role in **ulcerative colitis (UC)**. The latest research results from EU-funded project named MICROBE DIAGNOSTICS showed UC patients to have different microbe population in the intestine compared to healthy subjects, possibly causing increased production of toxic compounds.

Ulcerative colitis is a disease that causes inflammation in the large intestine. The inflammation causes diarrhoea and also other symptoms, such as stomach pain, weight loss, fatigue, loss of appetite and rectal bleeding. Most often the disease starts between ages 15-30, and it also appears to be a familial disease to some extent.

In a normal human gut microbiota, **sulphate-reducing bacteria (SRB)** are normally present at certain levels. Their role in the gut is to convert sulphate to sulphide. The end product of their metabolism is hydrogen-sulphide, H_2S, which is very toxic to humans.

Researchers analysed faecal samples from 12 UC patients and compared the results with analysis results of 12 healthy subjects in Spain and Ireland. Of all SRB, *Desulfiovibrio* genus was the most prevailing and diverse. Interestingly, the *Desulfiovibrio* community was more diverse in UC patients than in healthy subjects. Those patients whose condition worsened during the trial had constantly the same kind of SRB profile, whereas the SRB profile of alleviated patients tended to become simpler.

The causal connection still remains unsolved, meaning that scientist do not yet know whether different SRB profile causes UC or vice versa. More research is needed to clarify this interesting relationship.

Further information please contact:
Prof. Dr. Michael Blaut
Department of Gastrointestinal Microbiology
German Institute of Human Nutrition
Arthur-Scheunert-Allee 114-116, 14558 Bergholz-Rehbruecke, Germany
tel: +49 33200 88470, fax: +49 33200 88407, e-mail: blaut@mail.dife.de

More information on the PROEUHEALTH cluster can be obtained from http://proeuhealth.vtt.fi or by e-mail proeuhealth@vtt.fi