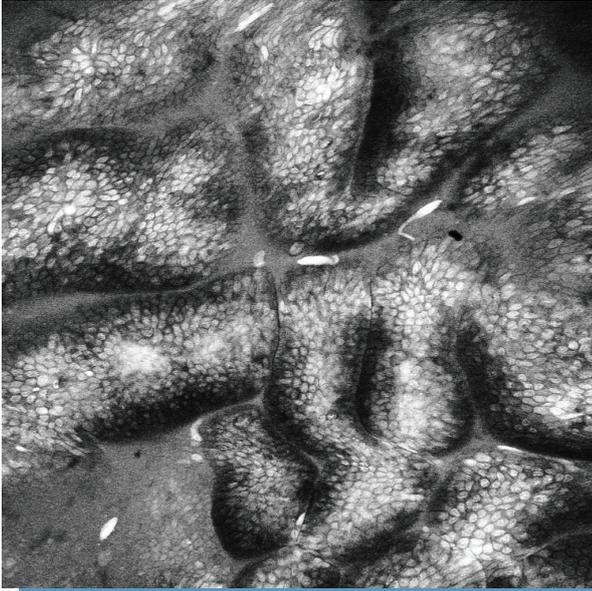


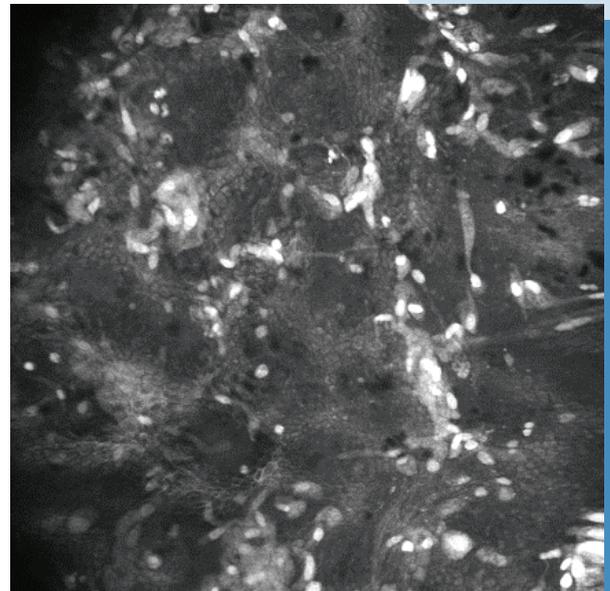
Tissue Micro-Flora

Fluorescence *in vivo* endomicroscopy enables high resolution imaging of tissue microflora *in situ*



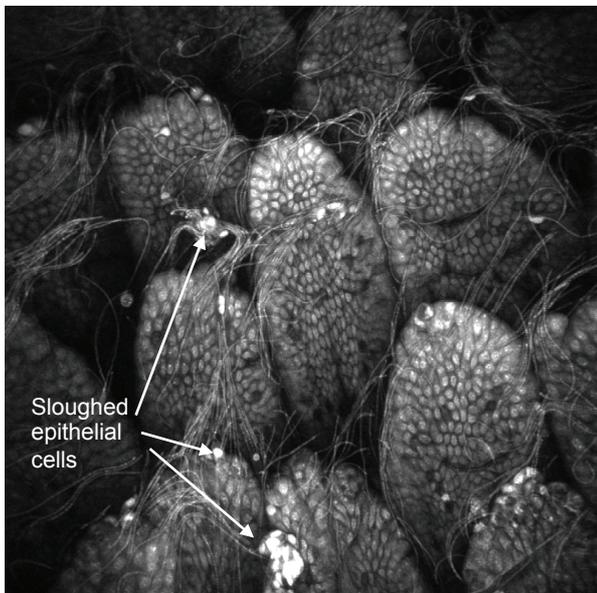
Helicobacter pylori within the mucous lining of the stomach. Contrast agent: topical acriflavine 0.05%. FOV=475 μ m

Image courtesy of Prof. Kiesslich, Mainz.



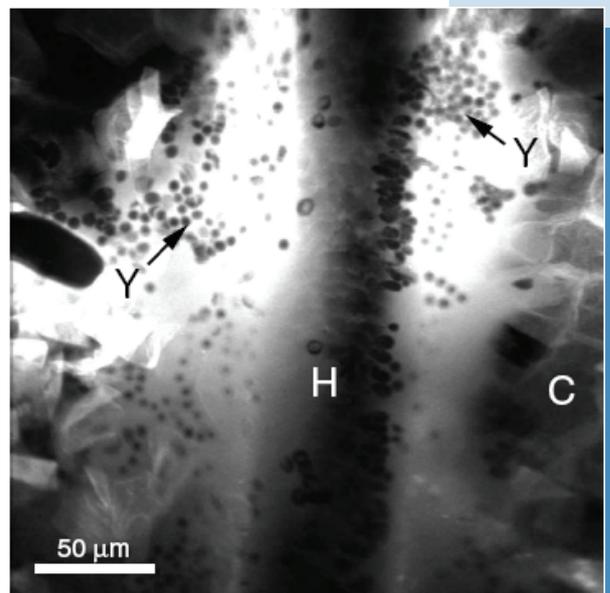
Helicobacter pylori associated gastritis. Contrast agent: topical acriflavine 0.05%. FOV=475 μ m

Image courtesy of Prof. Kiesslich, Mainz.



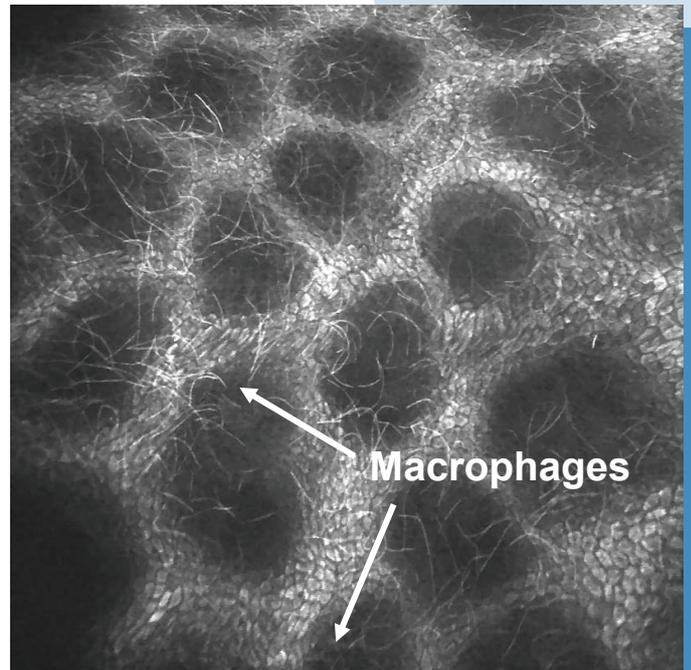
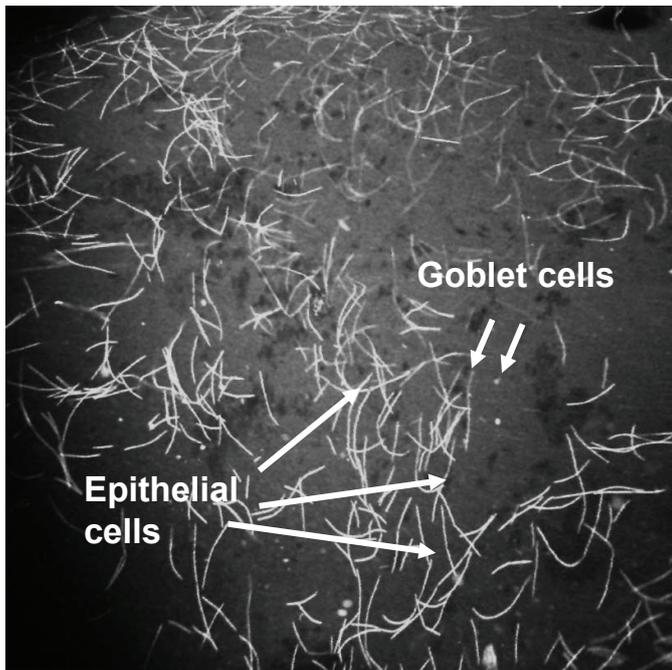
Intestinal microflora in the mucous layer on the mucosa of the mouse ileum labelled with topically applied acriflavine. FOV=475 μ m

Image courtesy of E.Angus, Liverpool.



Malassezia yeasts (Y) surrounding a hair (H) on the scalp, with corneocytes (C) of the scalp visible. Contrast agent: topically applied sodium fluorescein.

Image. courtesy of Prof Lademann, Berlin.



Candida in the stomach, labelled with topically applied acriflavine.
 LEFT: superficial image within the mucous layer (ie above the surface of the tissue).
 RIGHT: Candida organisms within the mucous, on the surface of the gastric mucosa .
 FOV= 475µm.

Images courtesy of Prof. Kiesslich, Mainz.

Experimental Methods

The surface of many tissues is colonised by micro-organisms, however normal tissue preparation & processing methods used in conventional histology typically wash away these organisms preventing their observation on typical histological slides.

Fluorescence *in vivo* endomicroscopy enables study of the tissue micro-flora in situ, and allows direct observation of the micro-organism/tissue interactions in the native environment.

Confocal Imaging

Confocal endomicroscopy was performed using 488 nm excitation (emission detection >505 nm).

Related reference

Meyer, L.E., Otberg, N., Tietz, H.J., Sterry, W & Lademann, J. (2004) In vivo imaging of Malassezia yeasts on human skin using confocal laser scanning microscopy. *Laser Phys. Lett.* 2:3, 1-5.

Kiesslich, R., Goetz, M., Burg, J., Stolte, M., Siegel, E., Maeurer, M., Thomas, S., Strand, D., Galle, P.R., Neurath, M.F. (2005) Diagnosing Helicobacter pylori in vivo by confocal laser endoscopy. *Gastroenterology.* 128 (7): 2119-2123.