

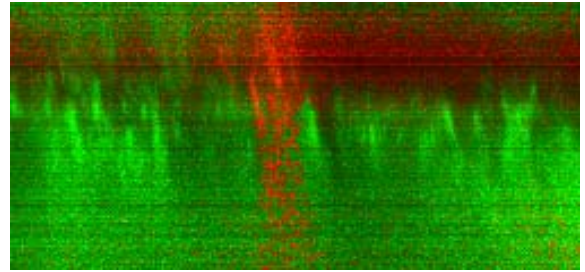
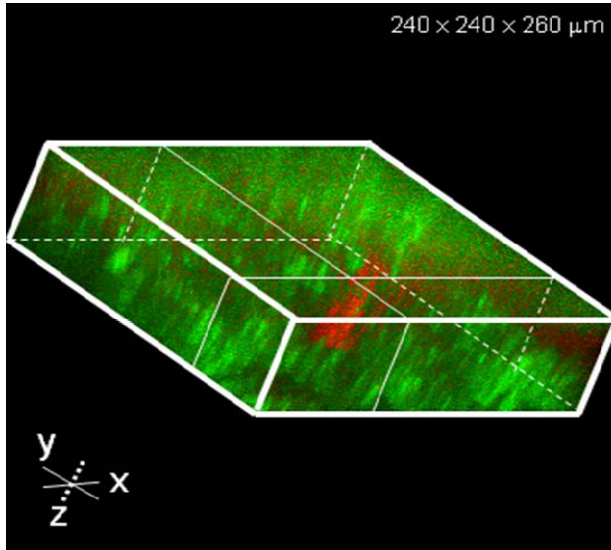
Label-free, Non-invasive, In-vivo Imaging Using Multiphoton Microscopy

Researchers at the University of California have developed a novel method for non-destructive, label-free, in-vivo imaging of live tissues and organisms. The UC method relies on modified multiphoton microscopy techniques to image live tissues.

The UC technique can differentiate between different types of tissues and image features as fine as 1 micron. The UC technique can penetrate from 100 um to 1 mm and longer, depending on the optical density of the tissue.

The UC technique is especially well suited to studying hair follicles, skin structure, and other features near the skin surface. With an endoscope, the UC technique could be used to image internal tissues. Small model organism such as nematodes or zebrafish could be imaged with great clarity.

The UC technique has been utilized to image live hair follicles in mice and corneal tissues with high resolution.



The image on the left is a 3D view of mouse dermis in a living animal. A live hair follicle shows in red while extracellular matrix proteins show green. At right, a 2D cross-section image of the same hair follicle.

