

# Nanoendoscopy AFM: a window into the cell

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Innovative research in cell biology strongly depends on the capacity to study cell structures in their own physiological environment. Current available techniques have failed to internally measure the cell with sub-nanometer resolution in physiological conditions without breaking or taking it apart. Thus, new research strategies require redesigning and developing new laboratory equipment, improving existing techniques and implementing new methods that allow us to perform disruptive studies in cell biology and medicine. Here, we present a novel nanoendoscopy technique based on the atomic force microscope to measure cells internal structures, in their own physiological environment without compromising their integrity or disassembling them, obtaining images that reflect the precise cell's structures and functions

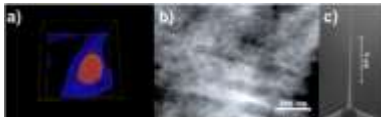


Figure 1. a) HeLa cell 3D-map performed with an AFM. b) Image of the internal side of the apical cytoplasmic membrane of a HeLa cell. c) Example of a needle like structure used to penetrate and internally measure cells, fabricated by FIB milling