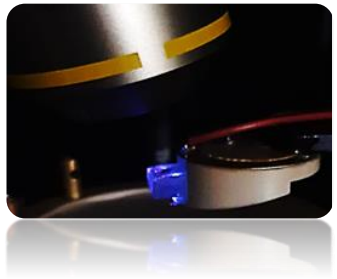
LUCENT™ AFM

- Unique combination of **AFM** with **L**aser **S**canning **M**icroscopy for correlational imaging, newer insights and faster results.
- LSM can quickly identify minute sample details in **millimeter** scans for AFM to map at the **nanometer** scale.

One Stop Solution For Nano Characterization



Features

- Novel motor scan for mm scale imaging + several options from 3um to 100um AFM scan range.
- In liquid imaging for Life science, electrochemistry and other applications.
- AFM spectroscopy, Fluorescence filter, glove box integration.

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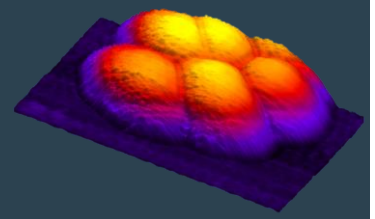
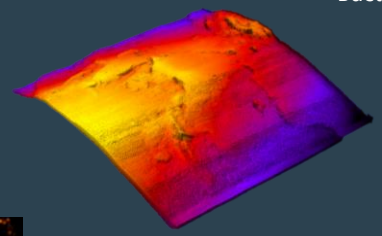


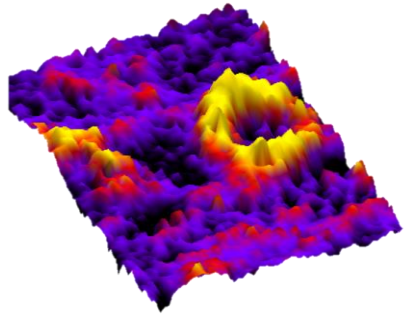
Bacteria Ø 1 um
AFM



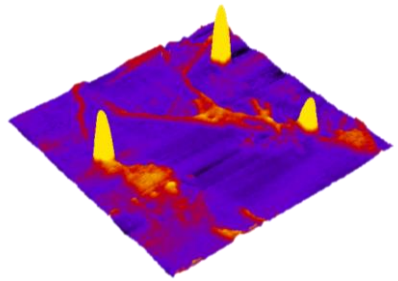
Hair 30 um x 30 um
AFM

Mosaic bacteria 300 um x 300 um.
LSM

LUCENT™ AFM



Plasmid ht. 3nm, Ø 500 nm
AFM



Exosomes 200nm
AFM

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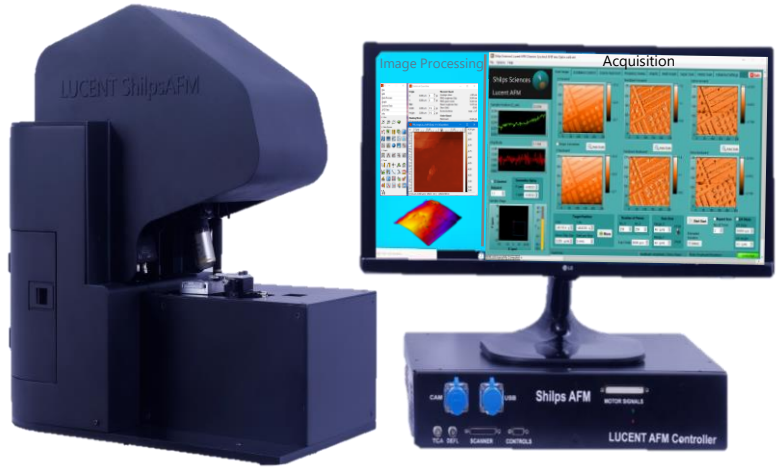
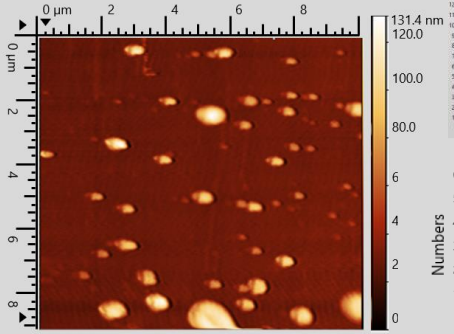
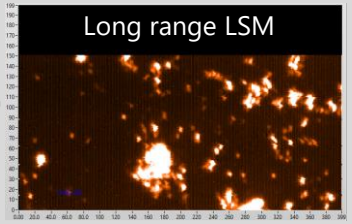
ATOMIC FORCE MICROSCOPE

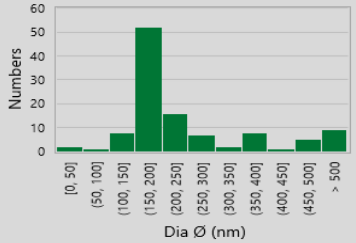


Life Sciences

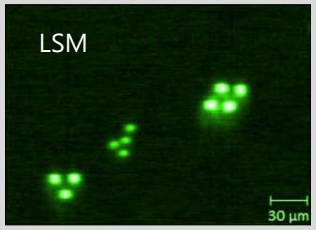
AFM scan







Exosomes generated from tissue culture are purified for medicinal purposes. We used AFM as an orthogonal method to measure sizes distribution as well as provided morphology and clustering information. LSM assists in quickly identify ideal locations for AFM scanning. Graph (c) shows the particle size / agglomeration size of distribution of exosomes.

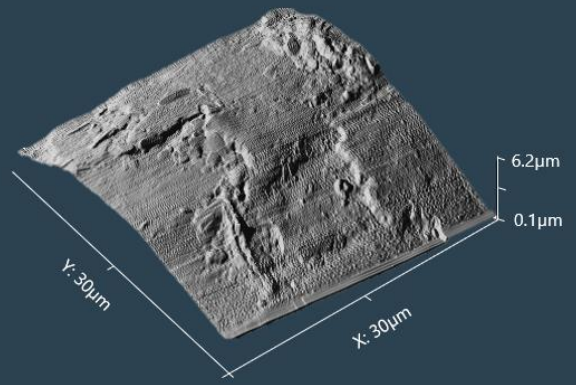


Conjugated micro beads are often used to concentrate molecules of interest and fluorescence is used as a readout. We differentiate between fluorescence and non fluorescence micro-beads in our AFM.

Applications

The intense competition in hair care products has spawned research to identify the root causes of hair damage and manufacturers want to show that their products are effective. Hair has a tubular structure. The LSM images easily guide the AFM tip to the top region of the hair. The AFM images show the damages or remnants on the top surface and in the cuticle edges in 3-D. The 'roughness' is linked to tactile sensation that is a focus point for the industry.

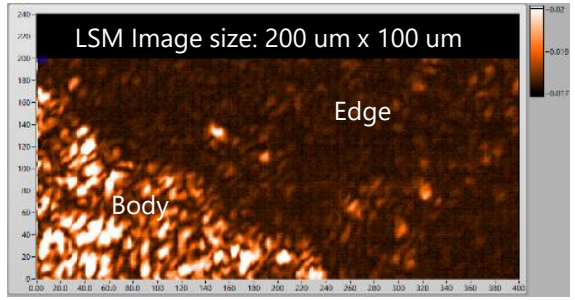
AFM scan

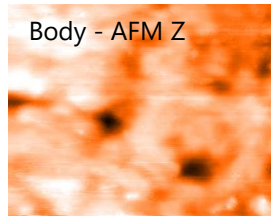


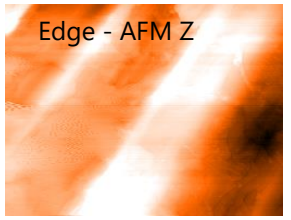
LUCENT™

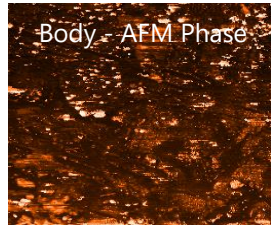
A World Of Applications

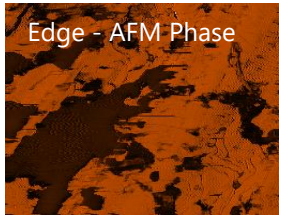
Materials











AFM 20µm x 20µm

Cutting tools have optimized body and edge regions. The LSM images show the two regions and identifies the boundary. The different contrast and brightness suggests material and processing differences. LSM could also visualize the grains. The AFM probe could then be positioned on the two sides of the boundary. AFM topography images show the characteristic grain morphology and material distribution is picked up in the phase images.