

The First NSOM/AFM/SPM Liquid Cell Upright, Inverted and Dual Optical Microscopes

A new frontier in integrated microscopy has arrived with the introduction of the Nanonics NSOM/AFM LC 100 Liquid Cell™ for the Nanonics NSOM/AFM 100 Confocal Microscope™ that is shown below.



Top View of The Nanonics NSOM/AFM 100 Confocal Microscope™ with Liquid Cell in Place

This microscope system allows high power objectives to be placed above and below the aperture that is in the center of this scanned probe microscope (SPM) system for both cantilevered near-field elements and conventional silicon cantilevers. This allows for high numerical aperture lenses to be used to collect fluorescence and other weak optical signals.



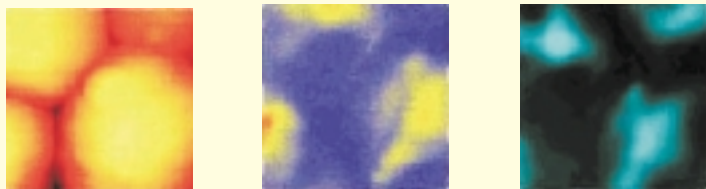
Bath



Tip mount with free optical axis.
left: without tip; right: with tip mounted

The NSOM/AFM LC 100 Liquid Cell™ consists of a bath, in which the sample sits, and a tip mount, which is suitable for either Nanonics patented cantilevered optical fibers or standard AFM silicon cantilevers. Like the Nanonics SPM system, it has a clear optical axis.



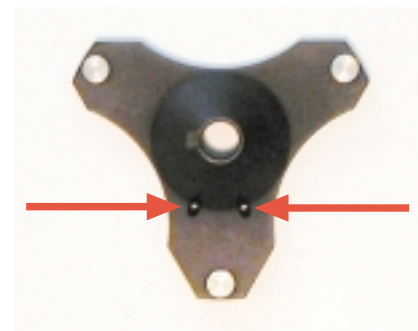


*7x7 μ m images of GFP labelled yeast cells in physiological media.
From left to right: AFM, NSOM fluorescence and NSOM transmission.*

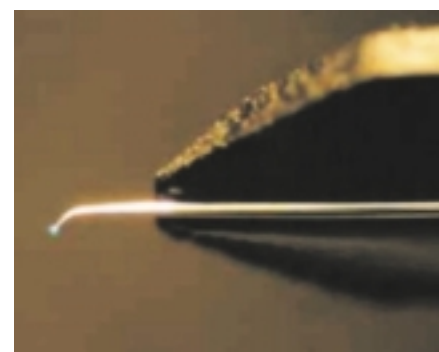
The NSOM/AFM LC 100 Liquid Cell™ bath in which the sample of interest is positioned is readily accessible for the addition of liquids of your choice. The volume of the bath is approximately three ml. Special orders can be placed for baths with different volumes.



Liquid can be exchanged while the SPM tip is in place through two holes, which are in the tip mount (arrows). This permits a flow of the solution of your choice in and out of the bath, allowing a constant renewal of the liquid environment.



The ability to keep the optical axis free from the top and the bottom of the Nanonics NSOM/AFM LC 100 Liquid Cell™ comes from singular Nanonics cantilevered near-field optical elements and optics in the NSOM/AFM 100 Confocal System™. All modes of AFM operation are possible, with both cantilevered optical fibers and silicon cantilevers, including contact, non-contact and intermittent contact.



With small modifications to the liquid cell to accommodate reference and counter electrodes, the cell can also be used for electrochemical experiments, in conjunction with our special electrochemical AFM probes.



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