



Super Resolution Microscope

N-STORM

Nikon's Super Resolution Microscope takes your research into the world of Nanoscopy beyond the diffraction limit.

Achieving a resolution 10 times (20nm laterally) greater than a conventional optical microscope

N-STORM employs the Stochastic Optical Reconstruction Microscopy (STORM) localization method. Taking full advantage of Nikon's powerful Ti-E inverted microscope, N-STORM applies high-accuracy multi-channel molecular localization and reconstructions in 3 dimensions to realize super resolution that is 10 times (approx. 20nm laterally) greater than conventional microscopes. This powerful technology can bring nanoscopic molecular interactions into view, opening new worlds of understanding.

Super resolution 3D fluorescent imaging

N-STORM utilizes highly accurate localization information of thousands of discrete fluorophor molecules detected within a microscope specimen to create a breathtaking "super-resolution" fluorescent image. In addition to lateral super-resolution, N-STORM utilizes proprietary methods to achieve approximately 50nm axial super-resolution, effectively providing 3D information at a nanoscopic scale.

Multi-color imaging using various fluorescent probes

N-STORM uses stochastic activation of relatively small numbers of fluorophor molecules at very low-intensity light. This low-level stochastic "activation" of discrete molecules enables high precision lateral Gaussian fitting of each molecule. Repeating this process, N-STORM detects localization of each fluorophore, and reconstructs super resolution images by combining this information. Additionally, N-STORM uses dedicated fluorescent dye pairs containing an "activator" (relatively short wavelength excitation) and a "reporter" (relatively long wavelength excitation), which enables various color combinations, facilitating true multi-channel super resolution.



With conventional optical microscope

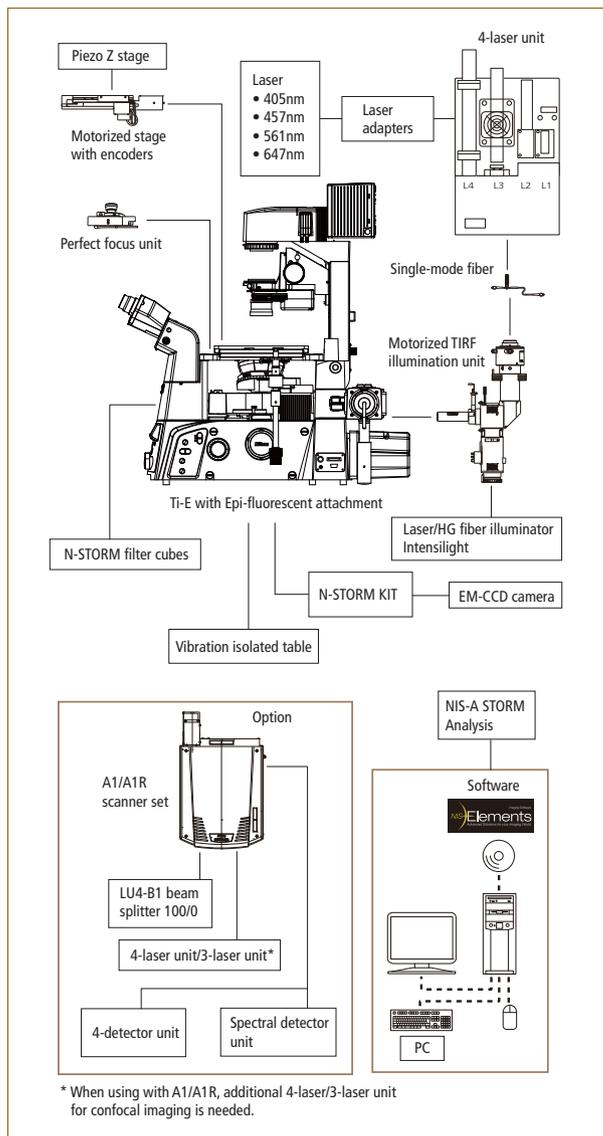


With N-STORM



Specifications

	N-STORM
XY resolution	Approx. 20nm
Z-axis resolution	Approx. 50nm
Image acquisition time	10 minutes or more
Imaging mode	TIRF-STORM 3D STORM
Multi-color imaging	2 colors simultaneously
Compatible laser	405nm, 457nm, 561nm, 647nm
Compatible microscopes	Motorized inverted microscope ECLIPSE Ti-E Perfect Focus System Motorized XY stage with encoders Piezo Z stage
Objectives	CFI Apo TIRF 100x oil (NA 1.49), CFI Plan Apo VC 100x oil (NA 1.40)
Camera	Andor Technology iXon DU897 EMCCD camera
Software	NIS-Elements Ar/ NIS-Elements C (with confocal microscope A1) Both need the NIS-A STORM Analysis



Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. July 2010 ©2010 NIKON CORPORATION



WARNING

TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

Monitor images are simulated.

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*Products: Hardware and its technical information (including software)



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