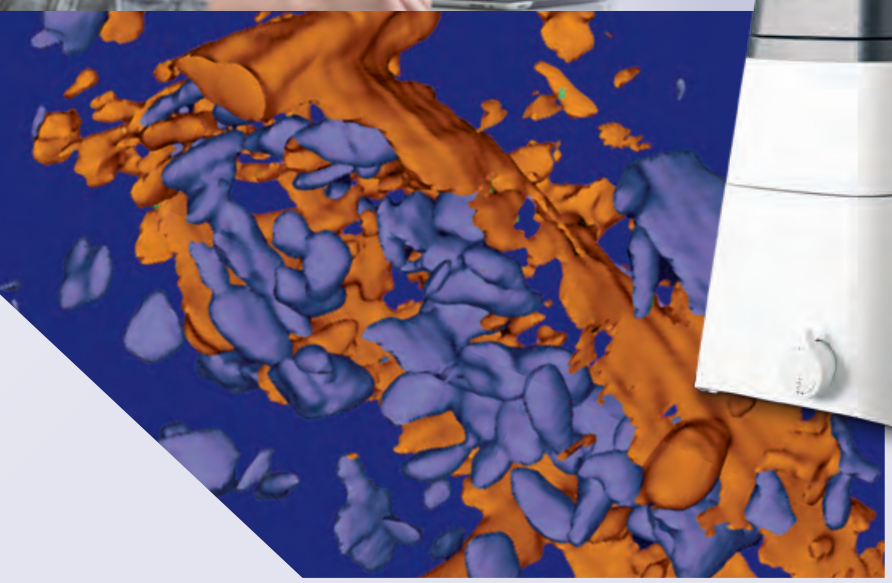
OXFORD INSTRUMENTS | WITec

Inverted Confocal Raman Imaging

alpha300 R*i*



3D Raman image of banana pulp

https://raman.oxinst.com

alpha300 R*i*

Inverted Raman imaging for chemical analysis of liquid or bulky specimens

The alpha300 R*i* turns 3D chemical imaging upside down. Its inverted beam path preserves all of the functionality and high performance of WITec's alpha300 confocal Raman microscope series while introducing a new angle in access and handling.

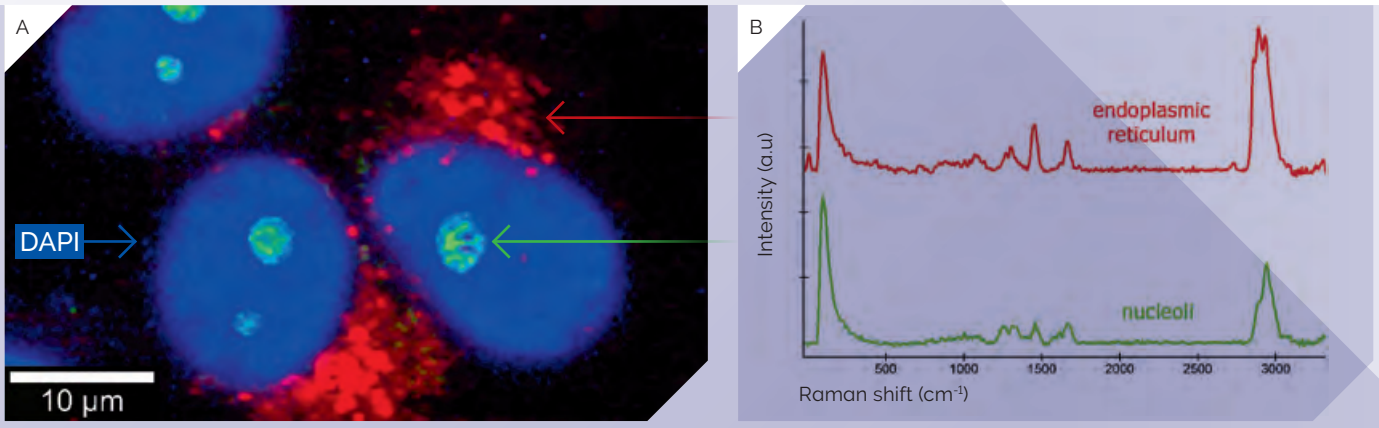
Confocal Raman imaging is a powerful and nondestructive method for visualizing a sample's molecular composition in 2D and 3D. WITec's alpha300 confocal Raman imaging microscopes provide high speed, sensitivity and resolution simultaneously for fast and comprehensive sample analysis.

The ability to view and investigate samples from below is a great advantage when working with aqueous solutions or oversized specimens. Studies in life sciences, biomedicine, pharmaceutics and geosciences in particular will benefit from the flexibility and performance provided by the alpha300 R*i*.

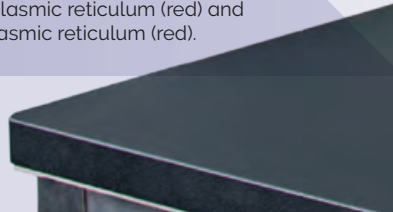
Many accessories and upgrade possibilities developed for the WITec alpha300 series are compatible with the alpha300 R*i*. Other techniques associated with inverted microscopes, such as fluorescence microscopy, can be easily integrated, which enables correlative imaging.

Key features

- Nondestructive, label-free chemical characterization
- Convenient handling of liquid and bulky samples
- Confocal beam path, which enables 3D image generation
- Spatial resolution limited only by physical law
- Modular design and extensive upgrade options
- Compatibility with other microscopy techniques including: fluorescence, dark field, bright field, differential interference contrast (DIC) and phase contrast



(A) Correlative Raman – fluorescence microscopy image of eukaryotic cells. Nuclei were stained with DAPI (blue). Endoplasmic reticulum (red) and nucleoli (green) were identified by their Raman signals. **(B)** Raman spectra corresponding to nucleoli (green) and endoplasmic reticulum (red).



An inverted beam path allows liquid samples to be placed on the fixed plane of the stage for quick and repeatable measurements.

Bulky samples that would be challenging to investigate underneath a conventional microscope objective turret can be accommodated on the stage of the alpha300 R*i*.

The motorized sample stage facilitates the mounting of environmental enclosures and other accessories.

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WITec Microscopes

WE TAKE CARE – WITec uses environmentally friendly printed materials. While this policy is only a small contribution to a healthy environment, we at WITec believe that focusing on details can effect positive change in the world.

alpha300 S: Scanning Near-field Optical Microscope

alpha300 A: Atomic Force Microscope

alpha300 R: Confocal Raman Microscope

alpha300 R*i*: Inverted Confocal Raman Microscope

RISE®: Raman Imaging and Scanning Electron Microscope

alpha300 *apyron*™: Automated Confocal Raman Microscope

alpha300 *access*: Confocal Micro-Raman System

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Explore the alpha300 R*i* product page

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