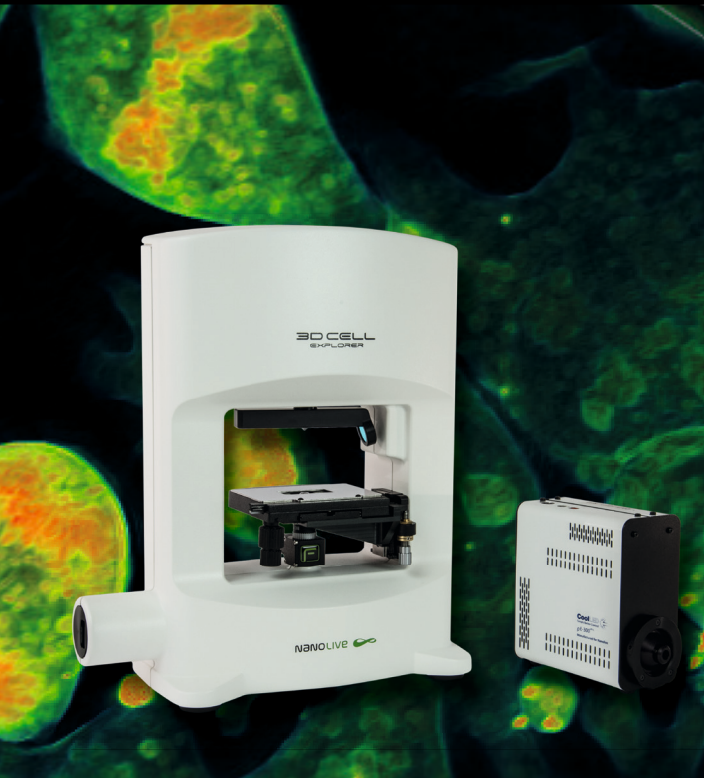


DISCOVER MORE



EXPLORE A NEW VISION

Long observation time
New space for discoveries

IMPROVE KNOWLEDGE

Combine fluo and RI tomography
Up to 10 markers in parallel

PROCESS NEW DATA SETS

Unique organelle segmentation
Quantitative data analysis

SAVE EXPERIMENTAL TIME

No preparation
Short setup time
Fast & easy acquisition

TECHNICAL SPECIFICATIONS

Illumination Source	Holotomography: Class 1 low power laser ($\lambda=520$ nm, sample exposure 0.2 mW/mm ²) Fluorescence: High speed switchable <100 μ s, Lifetime > 20'000 hours each channel
Resolution	Holotomography: x,y: 200 nm; z: 400 nm (3D image) Fluorescence: x,y: ~ 400 nm (2D image)
Field-of-view	Holotomography: 90 \times 90 \times 30 μ m Fluorescence: 90 \times 90 μ m
Microscope Objective	Dry objective / 60 \times magnification / NA 0.8
Channels	Holotomography: Up to 7 simultaneous Fluorescence: DAPI + FitC + TritC FitC + TritC + Cy5 DAPI + FitC + TritC / Cy5
Imaging	Holotomography: 3D Fluorescence: 2D 4D time lapse: (RI + fluo)
Time resolution	Holotomography: 0.5 fps 3D RI frame Fluorescence: 3 fps each channel
Camera	USB 3.0 CMOS Sony IMX174 sensor
Dimensions (width \times depth \times height in mm)	3D Cell Explorer-fluo: 380 \times 170 \times 445 Fluorescence module: 77 \times 186 \times 162
Weight	12 kg

NANOLIVE 
Looking inside life

3D CELL EXPLORER-*fluo*

COMBINE THE BEST OF TWO WORLDS

COMPLETE 3D SOLUTION

Combine high quality tomographic data with
fluorescent markers

MULTIPLEXING

Explore up to 10 markers in parallel

EXTENDED LIVE CELL IMAGING

Limit cell damages caused by fluorescent
markers, bleaching and phototoxicity

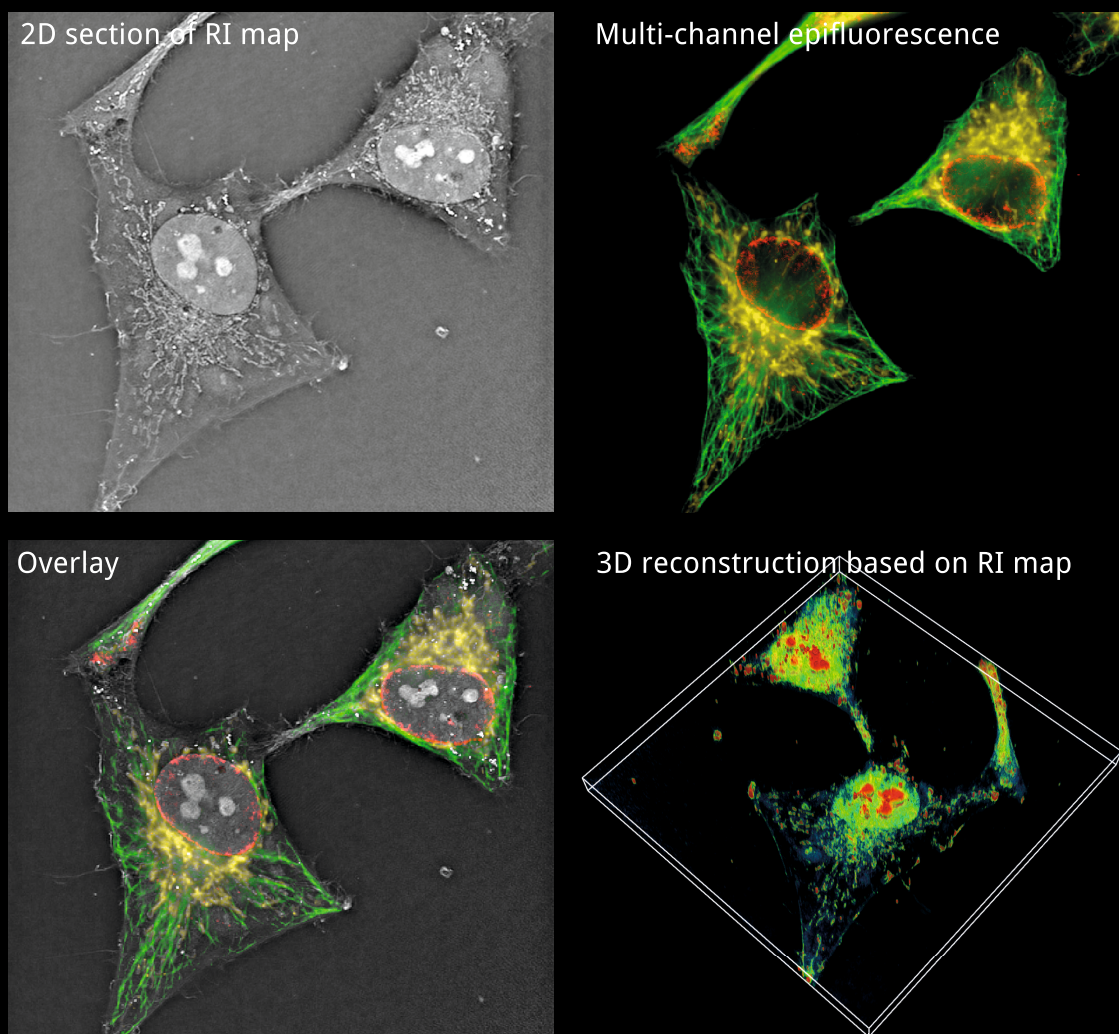
THE HOLOTOMOGRAPHIC FLUORESCENCE MICROSCOPE

REVOLUTIONARY TECHNOLOGY

MULTIMODAL COMPLETE SOLUTION FOR 3D LIVE CELL EXPLORATION

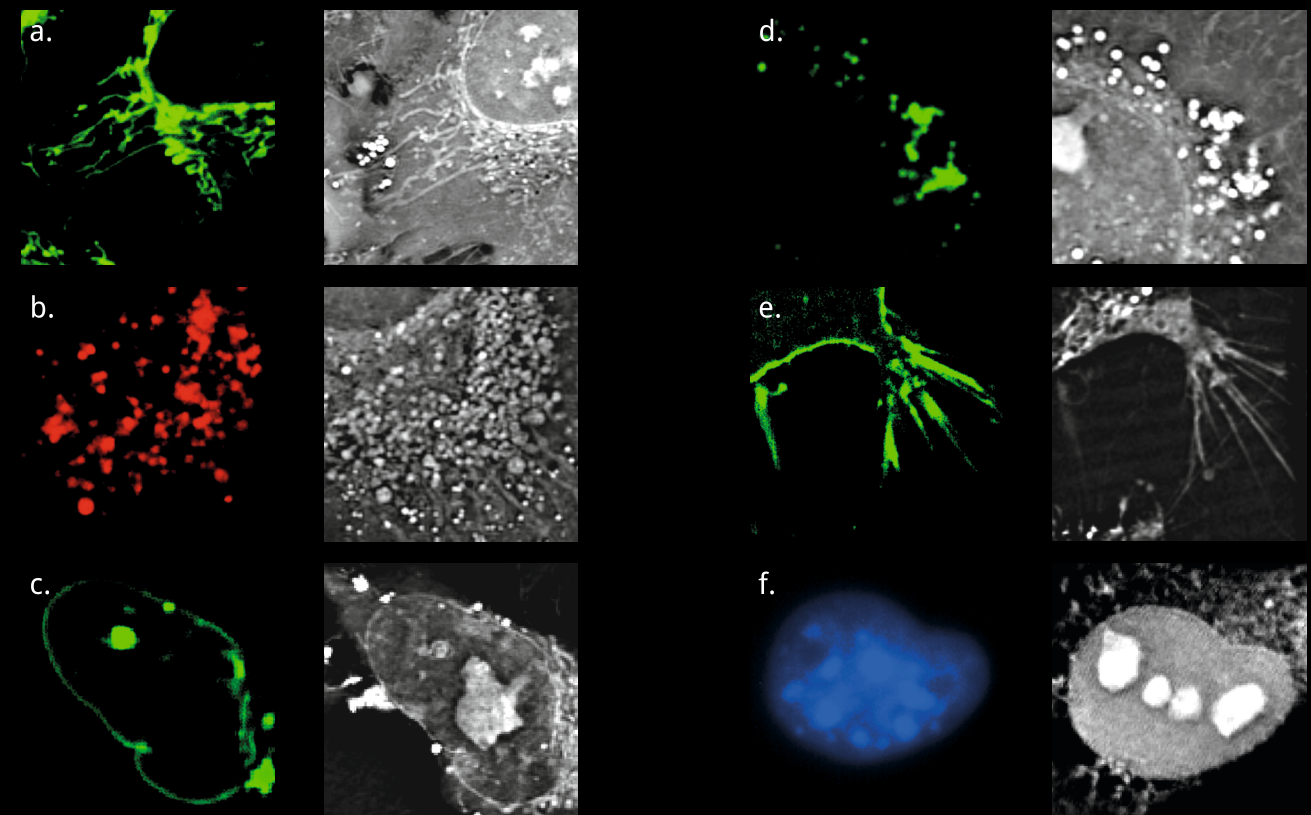
The 3D Cell Explorer measures the quantitative Refractive Index (RI) of cell organelles in seconds and 3D. This allows for biological features to be segmented based on their physical characteristics.

The 3D Cell Explorer-fluo combines 3D Refractive Index analysis with a fully integrated 3 channel fluorescence module to image your live cells as they are and as long as you want. Put chemical information into structural context for new biological insights.



MULTIPLEXING

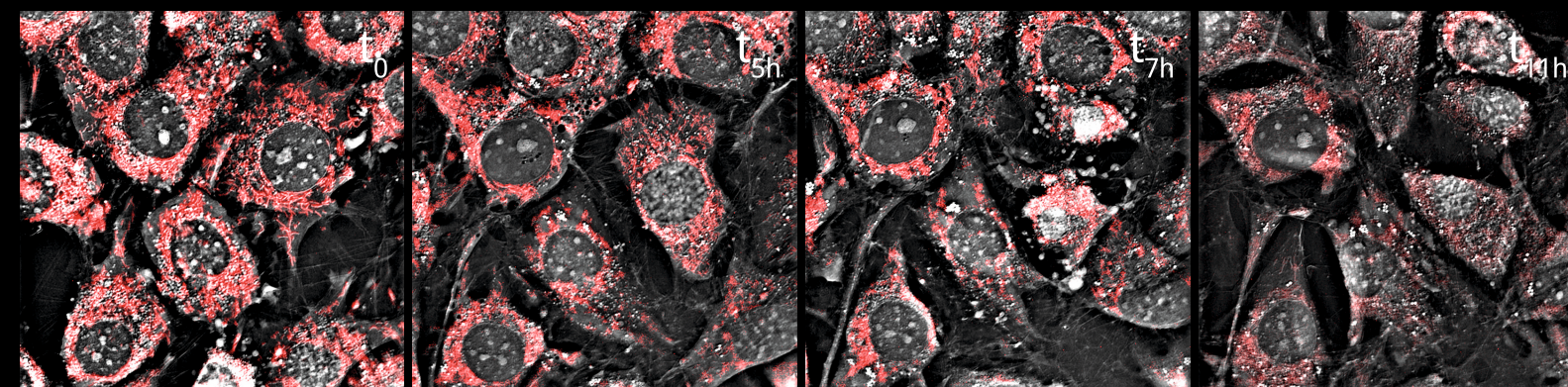
Transform 2D fluorescence into 3D cell tomography: Identify cell organelles through fluorescence and monitor non-invasively their structures & dynamics in 3D & marker-free. Explore fluorescence (3 channels) & Refractive Index (7 organelles) simultaneously.



Examples of correlation for a. mitochondria, b. lysosomes, c. nuclear membrane, d. lipid droplets, e. plasma membrane, f. nucleus & nucleoli.

EXTENDED LIVE CELL IMAGING

Image your live cells as long as you need. Limit cell damages caused by fluorescent markers, bleaching and phototoxicity.



Long-term imaging (11hrs) of mouse pre-adipocytes. Mitochondria were labeled with mitoTracker. A holotomographic image was taken every 15 seconds and a fluorescence image every 5 minutes.



IN A VERY SHORT PERIOD OF TIME, THE 3D CELL EXPLORER HAS BECOME VERY INTENSIVELY USED AND WE HAVE FOUND APPLICATIONS IN SEVERAL DIFFERENT DISEASE AREAS — WE WOULD NOT WANT TO BE WITHOUT THIS INSTRUMENT.

Oliver Nayler, PhD
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Idorsia Pharmaceuticals Ltd, Allschwil, Switzerland