

## Why the 3D Cell Explorer-*fluo*

### Combine high quality RI tomographic data and fluorescence markers

You want to extend your understanding of cell structures and cell mechanisms? Thanks to our 3D tomographic technology you can now have a powerful platform that combines RI information with fluorescence markers.

### Go beyond fluorescence limitation

You are frustrated by the limitations of fluorescence markers? You would like to go further? Combine them with Nanolive's digital staining and push the limits forward.

### Achieve specific cell analysis while preserving cell life

Forget about fixation! With the 3D Cell Explorer-*fluo* you can now observe your cells as they are: alive, 3D and in motion!

### Perform infinite live cell imaging

Limit cell damages caused by fluorescence markers, bleaching and phototoxicity. The 3D Cell Explorer-*fluo* allows you to transform your chemical markers into physical ones which can be monitored for a limitless amount of time.

## Technical Features 3D Cell Explorer-*fluo*

The 3D Cell Explorer-*fluo* consists of a holotomography microscope and an adjacent fluorescence module.

Technical Features	3D Cell Explorer- <i>fluo</i>
Illumination source	Holotomography: Class 1 laser low power (610-620 nm, sample exposure 0.2 mW/mm <sup>2</sup> ) Fluorescence: high speed switchable <100 µs, Lifetime >20000 hours each channel
Resolutions	Holotomography: Xy: 200 nm, Z: 480 nm (3D image) Fluorescence: xyz: ~400 nm (2D image)
Field-of-view	Holotomography: 90 × 90 × 30 µm Fluorescence: 90 × 90 µm
Microscope Objective	Dry objective / 60x magnification / NA 0.8
Channels	Holotomography: Up to 7 simultaneous Fluorescence: 3: FITC (green), TRITC (orange) and DAPI (blue) or Cy5 (red)
Imaging	Holotomography: 3D Fluorescence: 2D 4D time lapse: (RI + Fluor)
Time resolution	Holotomography: 0.5 fps 3D RI frame Fluorescence: 9 fps each channel
Camera	USB 3.0 CMOS Sony IMX174 sensor / Quantum Efficiency (typical) 79 % (at 545 nm) / Dark Noise (typical) 5.6 e <sup>-</sup> / Dynamic Range (typical) 73.7 dB
Dimensions (width × depth × height in mm)	3D Cell Explorer- <i>fluo</i> : 380 × 176 × 445 Fluorescence module: 77 × 185 × 162
Weight	12 kg

## 3D CELL EXPLORER-*fluo*

The first holotomographic  
fluorescence microscope  
in the world

FLUO



Combine 2D Fluorescence with 3D Cell Tomography

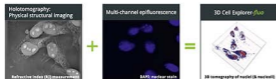
Decrease or eliminate bleaching and phototoxicity

Explore up to 10 markers in parallel

Reduce imaging artifacts

## THE 3D CELL EXPLORER-FLUO IS THE MOST POWERFUL SOLUTION TO EXPLORE LIVING CELLS!

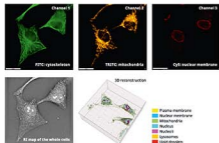
The 3D Cell Explorer<sup>Fluo</sup> is equipped with 2 imaging modalities



- + Reflective Index (RI) measurement of the whole cell in 3D
- + 4D continuous non-invasive cell observation (for days at every second)
- + Digital Stains: Post-experiment segmentation of cell organelles through RI markers
- + Specificity and sensitivity of antibody-conjugated probes and genetically-engineered fluorescent protein constructs
- + Functional measurement of cell organelles, proteins or drugs
- + Well established scientific method
- ✓ Transform 2D fluorescence microscopy into 3D cell tomography
- ✓ Reduce imaging artefacts
- ✓ Explore 10 markers in parallel

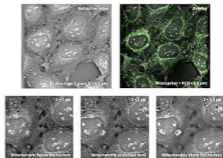
## EXPLORE 10 MARKERS IN PARALLEL

Co-localize fluorescence (3 channels) & Digital Stains (7 channels) at single acquisition.  
Define Digital stain libraries calibrated on fluorescence markers.

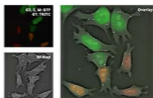


## UNVEIL NEW DIMENSIONS: COMBINE 2D FLUORESCENCE MICROSCOPY WITH 3D CELL TOMOGRAPHY

Localize organelles at different cell depths (e.g. mitochondria) from a 2D fluorescent signal: extend 2D into 3D.



## CORRELATE STRUCTURE & FUNCTION



Add structural information to your acquisition. Correlate changes at the protein level with morphological and behavioural changes in your cells (e.g. FUCCI cells). Monitor drug internalization or localization by following your whole cell at every second.