OLYMPUS®

Your Vision, Our Future

Live Cell Imaging System

IX83-ZDC

IX3 series

NEW

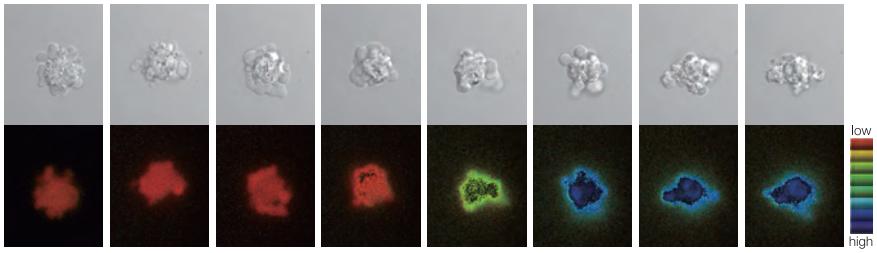
Built for Live Cell Imaging

The IX83-ZDC maintains continuous focus throughout extended time-lapse use.

It uses low phototoxicity IR light to detect the correct focus position as set by the user. One-shot AF mode allows several focus positions to be set as desired for deeper samples, enabling efficient Z-stack acquisition in multi-position experiments. Continuous AF mode keeps the desired plane of observation precisely in focus, avoiding focus drift due to temperature changes or the addition of reagents, making it ideal for measurements that requires more stringent focusing.

IX83-ZDC SYSTEM FEATURES AND BENEFITS

Time-lapse Observation Images Using ZDC



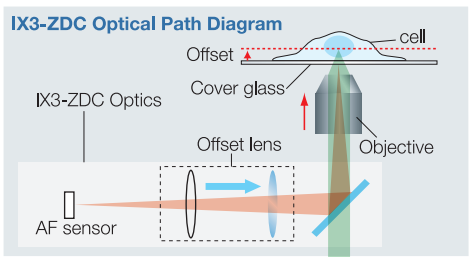
Apoptosis in cultured human ES cells, photographed at 2-minute intervals over 5 hours. (Top row: DIC imaging of physical changes; Bottom row: FRET imaging of Caspase-3 action)

Image data courtesy of:
Masatoshi Ohgushi, Ph.D., Yoshiki Sasai M.D., Ph.D.,
RIKEN Research Center for Developmental Biology

Reference material:
Ohgushi, M. et al. Molecular Pathway and Cell State Responsible for Dissociation-Induced Apoptosis in Human Pluripotent Stem Cells. Cell Stem Cell 7, 225-239(2010).

Ideal Observation and Capture of Time-Lapse Image

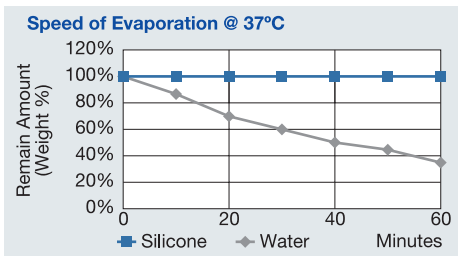
With new frame architecture, focus drive design and Z-drift compensation unit, the IX3 system offers enhanced rigidity that reduces the impact of vibration and heat. It maintains desired positions along X, Y, and Z axes to allow reliable time-lapse imaging.



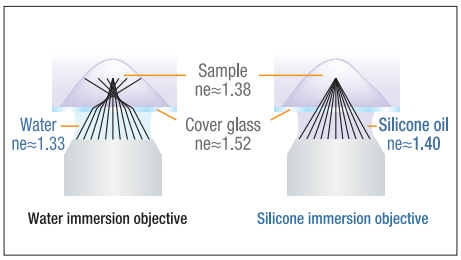
Silicone Objectives are Ideal for Long-term, Time-lapse Observation and DSU Observation

The Refractive Index of Silicone Oil (1.40) Matches Very Well to Almost of Live Biological Samples (1.38)

Using silicone oil as an immersion medium can minimize spherical aberration caused by refractive index mismatch and realize brighter images and higher resolution with live samples.



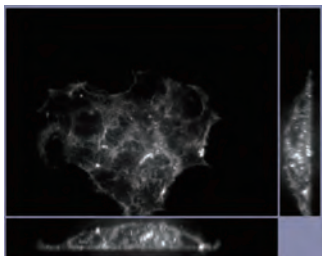
Do not dry up even in 37°C (No need to add more fluid over time). Always maintain same image quality.



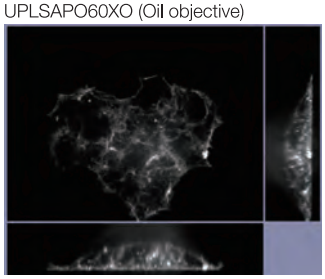
When working with a silicone immersion objective, the difference between the refractive index of the samples and silicone oil is minimal. So it achieves brighter fluorescence images with higher resolution. On the other hand, when working with a water immersion objective, the difference between the refractive index of the samples and water results in spherical aberration, causing resolution to deteriorate and fluorescence to become dim.

DSU Image (HeLa Rhodamine-Phalloidin)

UPLSAPO60XS (Silicone objective)



UPLSAPO60XO (Oil objective)



NEW

From left to right:
UPLSAPO30XS, UPLSAPO40XS, UPLSAPO60XS

- **OLYMPUS CORPORATION is ISO14001 certified.**
- **OLYMPUS CORPORATION is FM553994/ISO9001 certified.**
- **OLYMPUS CORPORATION is MD540624/ISO13485 certified.**
- **Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our website for details.**

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