**Nikon H-TIRF**

Versatile fluorescence inverted widefield microscope equipped with four lasers, epifluorescence lamp and EM-CCD and CMOS cameras. The microscope is designed for short and long live-cell imaging and experiments under standard or TIRF illumination.

Link to manufacturer website:

<https://www.nikoninstruments.com/cz_CZ/Vyrobky/Inverzni-mikroskopy/Eclipse-Ti-E>

**Application**

* Fast and sensitive multicolor widefield imaging with TIRF, HILO or EPI excitation option
* Option of simultaneous dual wavelength imaging by single camera
* Short or long term live-cell imaging available
* Various measurement options: z-stack, time series, tile scan, multi positions
* Brightfield and DIC microscopy

**Microscope**

Inverted widefield microscope Nikon Eclipse Ti-E equipped with motorized XY stage, Perfect Focus System, H-TIRF module, module for environmental control Okolab (temperature controlled range room temperature up to 40°C; CO2 0-10%; humidity up to 95 %), insertable quarter-wave plate, insertable gradation neutral density filter, transmitted light lamp (100 W) and following units:

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| --- | --- |
| Software | **NIS-Elements Ar (v5.02)** |
| Epifluorescence  | **Nikon Intensilight E** |
| Laser excitation wavelengths | **405 nm, 488 nm, 561 nm, 640 nm** (all cw) |
| Filter turret | **TagBFP** (excitation 395-415, emission 435-485)**EGFP** (483-493, 500-550)**mCherry** (556-566, 593-668)**Cy5** (632-652, 669-741) **Quad Band Set** - 405/488/561/640 |
| Objectives | Nikon **CFI Apo TIRF 60x Oil, NA 1.49**, WD 0.12 mm, Correction Collar, DIC (motorized prism insertion)Nikon CFI **Plan Apo 60x WI, NA 1.27**, WD 0.17 mm, Correction Collar 0.15-0.19, DIC Nikon CFI **Plan Apo Lambda 20x, NA 0.75**, WD 1mm, DICNikon CFI **Plan Apo Lambda 10x, NA 0.45**, WD 4 mm |
| Tube lenses | 1x1.5x |
| Relay lens in front of EM CCD Camera | 2.5x |
| Cameras | **EM CCD Andor iXon Ultra DU888** (Andor Technologies)* right port
* 1024 x 1024 pixels
* pixel size: 13 μm x 13 μm
* 26 fps at 1024 x 1024 pixels, QEmax> 90%

**CMOS Hamamatsu ORCA-flash4.0 LT** (Hamamatsu Photonics)* left port
* 2048 x 2048 pixels
* pixel size: 6.5 x 6.5 μm
* 30 fps 2048 x 2048 pixels
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| Image splitter | **W-View Gemini** (Hamamatsu Photonics)* in front of Hamamatsu camera
* available beamsplitters: 484 nm, 560 nm, 640 nm and 700 nm
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