

Leica TCS SP5 (Confocal Microscope)

Location: DKFZ Main Building, 3rd floor, room [H1.03.033](#)

Instrumentation

Microscope:

- motorized inverted DMI6000 CFS

Tandem-scanner:

- standard scanner with tunable scanning frequency @1-2800Hz for conventional imaging

Laser lines:

- UV diode (405nm; 50mW) for DAPI, Hoechst, Alexa 405, Fura 2
- Ar multiline (458/476/488/496/514nm; 100mW)
 - 458nm: CFP, Alexa 458
 - 476nm: GFP
 - 488nm: Alexa 488, FITC, GFP, Acridin Orange, DiO, Cy2, Fluo-3
 - 496nm: Alexa 494, FITC, Oregon Green 488
 - 514nm: Alexa 514, YFP
- DPSS (561nm; >1mW) for Alexa 546, TRITC, Cy3, DiI, PI
- HeNe 2 (594nm; 2mW) for Alexa 594, Texas Red
- HeNe 3 (633nm; 10mW) for Alexa 633, Cy5

Detectors:

- tunable spectral PMTs
- hybrid photon detectors (HyD)
- transmitted light PMT

Objectives:

- 10x / 0.40 HC PL APO (air)
- 20x / 0.7 IMM CORR HC PL APO (oil)
- 40x / 1.30 HCX PL APO (oil)
- 63x / 1.40 PL APO (oil)

Software options:

- Advanced Mark & Find
 - combines Mark & Find with sophisticated 3D recordings
 - Live Data Mode etc.
- 3D visualisation
 - maximum and other projections
 - simulated fluorescence process
 - rotation animations
 - stereo pairs

- red-green anaglyphes
- high color coded extended depth of focus images etc.
- Colocalisation (secondary licence; image processing room)
 - histogram based colocalisation and area measurements
- MicroLab
 - FRAP wizard
 - FRAPxt wizard
 - FRET SE wizard
 - FRET AB wizard etc.

Special Features

Broadband confocal with a wide range of scan speeds at high resolution (point-scan). With its high efficiency SP-detection (five channels simultaneously) and optional AOBS for dynamic beam splitting, the Leica TCS SP5 delivers bright, low-noise images with low photodamage at high speed.

Documentation