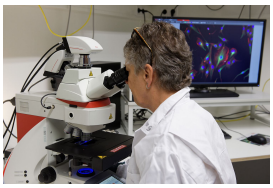
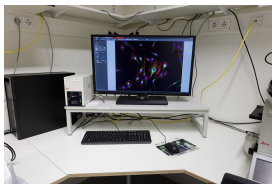
Leica DM6b microscope

https://search.researchequipment.wur.nl/SearchDetail.aspx?deviceid=0cf82fa7-3023-45bb-a8a8-0ac4171a6ae7





Brand

Leica Microsystems

Type

DM6B

Contact

Henk Schipper (henk.schipper@wur.nl)

Organisation

Animal Sciences Group

Department

Experimental Zoology

Description

The Leica DM6b microscope is an upright light microscope, intended as a general microscope for routine examinations of biological specimens (usually on microscope slides). This microscope will be used to make light-microscopical observations of small organisms, tissues and cells/bacteria.
The Leica DM6b microscope can be used with normal Transparent (Bright Field), Fluorescence and DIC illumination.
The Leica LASX software allows the use of the microscope in a software controlled way, to create ordinary pictures or tile scans, pictures at different focal depths, time lapse recordings, etc.
The combination of the LeicaDM6bmicroscope with the Leica DMi8 microscope and the software package in the Leica Light Microscopy Setup makes the system well suited for both routine and research microscopy.

Technical Details

The Leica DM6b microscope is a modular upright light microscope.
• transparent illumination is provided by a 100W LED light source
• fluorescence illumination is provided by a Metal-Halide light source of 120W (Leica EL6000). This light source is connected to the microscope by a liquid light guide to prevent warming of the specimen.
• objectives of 5, 10, 20, 40 and 100x.
• the eye piece magnification 10x.
• filter sets available for fluorescence: DAPI, GFP, Texas Red, Y5, Rhodamine and BGR (Blue/Green/Red in one). The carousel of filter sets is software controlled.
• the XYZ stage is motorized and software controlled, in order to create large tile scans and Z-stacks.
• auto-focus during imaging is possible.
• adjustable differential interference contrast, to produce contrasted images of living specimen.
The many automated functions allow the automatic capture of images. During the image recording process, adjustment of the viewing position (tile scanning or mark&find), and focus (extended depth of focus) are feasible. Time-lapse image capture series allow the creation of small movies of the processes of interest.
Technical functions as adjustment of diaphragms, condenser and luminous intensity for the magnification and contrast method are controlled and repeated automatically. Objective-side and condenser-side IC prisms, and the analyzer and polarizer are motorized and encoded. All the motorized functions are software controlled and displayed on the touch panel Leica Smart-Touch of the DM6b. In this way the microscope can be used without the connected workstation.
Cameras
For the capturing of images three cameras are available:
• 5 megapixel and cooled colour CCD camera DFC450C,
• high-sensitive 1.4 megapixel monochrome camera DFC365FX
• fast, high-sensitive 1.3 megapixel monochrome camera DFC3000G.
The cameras can be interchanged between the two microscopes.

Applications

The Leica microscope DM6b can visualize a very broad range of biological samples, such as stained histological sections on microscope slides, unstained biological sections or samples, living cells, tissues or even small organisms (e.g. zebrafish larvae). With the available filter sets a range of fluorochromes can be used to detect the different labels in the above mentioned samples. The available filter sets will be expanded in the near future.

Complementary Techniques

The Leica DM6b, the upright light microscope, can be combined with the inverted light microscope, the Leica DMi8, in order to create a wide range of light-microscopical routine observations of small organisms, tissues and cells/bacteria.