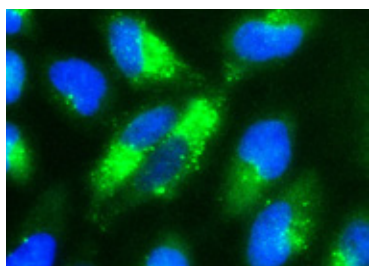


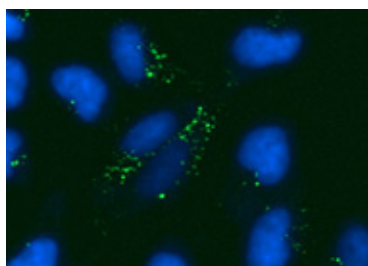
# Lionheart™ LX Automated Microscope

BioTek's new Lionheart LX Automated Microscope is designed with affordability in mind, offering an alternative to expensive, custom-built automated microscopes that are complex to learn and use. The compact, ocular-free hardware design eases ergonomic discomfort.

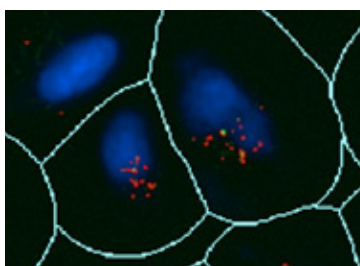
Along with Gen5 software, Lionheart LX enables Augmented Microscopy™, which fully automates image capture, processing and analysis. Load samples, start a run and come back to publication-ready images and quantitative data. Lionheart LX can help increase your research output while reducing processing time and costs.



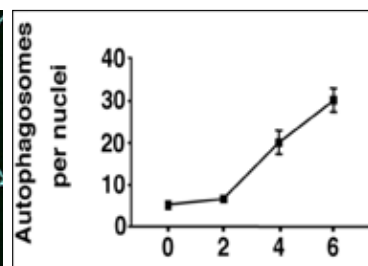
capture



process



analyze



publish



## Features:

- Affordable automated digital microscopy for microplates, slides, cell culture dishes and flasks
- High contrast brightfield, color brightfield and fluorescence imaging
- Augmented Microscopy™ with seamless image capture, processing and analysis: advanced expertise not required
- Quick analyze feature: instant cell count and confluence measurement from live feed, prior to image capture
- Fully integrated and compact design offers quick installation and setup

## Typical Applications:

- Cell counting
- End point live cell assay including:
  - Apoptosis
  - Autophagy
  - Cell cycle
  - Cytotoxicity
  - Mitochondrial membrane potential
- Fluorescence in-situ hybridization
- Histology (H&E)
- Label-free cell counting
- Confluence
- Genotoxicity including:
  - Commet assay
  - $\gamma$ H2AX
- Immunofluorescence
- NASH assays using lipophilic fluorescent probes
- Phenotypic assays

## Configurations:

**LLX:** Lionheart LX Automated Microscope. Fluorescence, high contrast brightfield and color brightfield imaging. Includes standard Gen5 software and 4-position slide holder. The imaging controller, objectives, filter/LED cubes, accessories and software upgrades are sold separately.

## Optional Accessories:

- Gen5™ Secure for 21 CFR Part 11 compliance
- Gen5 Image+ and Image Prime Software for advanced image analysis
- Vessel adapters (T25, T75, 35 and 60 mm dishes, slides)
- Joystick Controller

See [www.biotek.com](http://www.biotek.com) for complete list of accessories.



Easy access to filter/LED cubes and objectives.

## Specifications:

### General

**Labware type:** Imaging: 6- to 1536-well plates  
**Other labware:** Microscope slides, Petri and cell culture dishes, cell culture flasks (T25, T75), counting chambers (hemocytometers), chamber slides  
 Support for labware up to 1.5" tall  
**Stage control:** High resolution lead screw driven stage with open access  
**Software:** Gen5™ 3.0 Microplate Reader and Imager Software included; Gen5 Image+ and Image Prime software for advanced image analysis (option)

### Imaging

**Imaging modes:** Fluorescence, high contrast brightfield, color brightfield  
**Imaging methods:** Single color, multi-color, montage, time lapse, z-stack, z-stack montage, burst mode  
**Image processing:** Z-projection, digital phase contrast, stitching, deconvolution  
**Light source:** High power LEDs (available wavelengths: 365 nm, 390 nm, 465 nm, 505 nm, 523 nm, 590 nm, 623 nm, 655 nm, 740 nm)  
**Camera:** 16-bit gray scale, Sony CMOS, 1.25 megapixel  
**Camera binning:** Optional 2x2 binning for focus and/or image capture  
**Camera exposure range:** 5 milliseconds – 4 seconds  
**Image outputs available:**  
 Raw Images: 16-bit TIFF  
 Saved Images: TIF, JPG, BMP, PNG, EMF, GIF  
 Movies: MP4, WMV  
**Filter cube capacity:** Up to 4 onboard, user-replaceable cubes  
**Colors available:** DAPI, CFP, GFP, YFP, RFP, Texas Red, CY5, CY7, Acridine Orange, CFP-YFP FRET, Chlorophyll, Phycoerythrin (PE), Propidium Iodide, CY5.5, TagBFP, GFP (Ex)-CY5(Em), CFP FRET, 377 (Ex)-647 (Em), Oxidized roGFP2, 400 (Ex)-647 (Em)  
**Objective capacity:** 6 onboard, user-replaceable objectives  
**Available objectives:**  
Air: 1.25x, 0.04 NA; 2.5x (2.25x eff), 0.07 NA; 2.5x (2.75x eff), 0.12 NA; 4x, 0.13 NA; 10x, 0.30 NA; 20x, 0.45 NA; 40x, 0.60 NA; 60x, 0.70 NA  
Oil: 60x, 1.42 NA; 60x, 1.25 NA; 100x, 1.40 NA; 100x, 1.30 NA  
High NA: 20x, 0.75 NA; 40x, 0.95 NA  
**Image collection rate:** Single Well Fastest Frame Rate Capture:  
 - Full Resolution: up to 10 frames per second for single color images  
 - 2x2 Binning: up to 20 frames per second for single color images  
**Automated functions:** Autofocus, user-trained autofocus, autoexposure, auto-LED intensity  
**Autofocus method:** Image-based autofocus  
 Laser autofocus option  
**Microscope stage control:** Gen5 Software Control  
 Optional joystick controller

### Physical Characteristics

**Power:** 60 Watts max.  
**Dimensions:** 18.3" D x 17.9" W x 14.1" H (46.5 cm x 45.5 cm x 35.8 cm)  
**Weight:** 51 lbs (23.1 kg)

### Regulatory

CE and TUV marked. RoHS compliant. Configurations for *In Vitro* Diagnostic use are available.

Performance values represent the average observed factory test values.

Preliminary specifications subject to change.

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