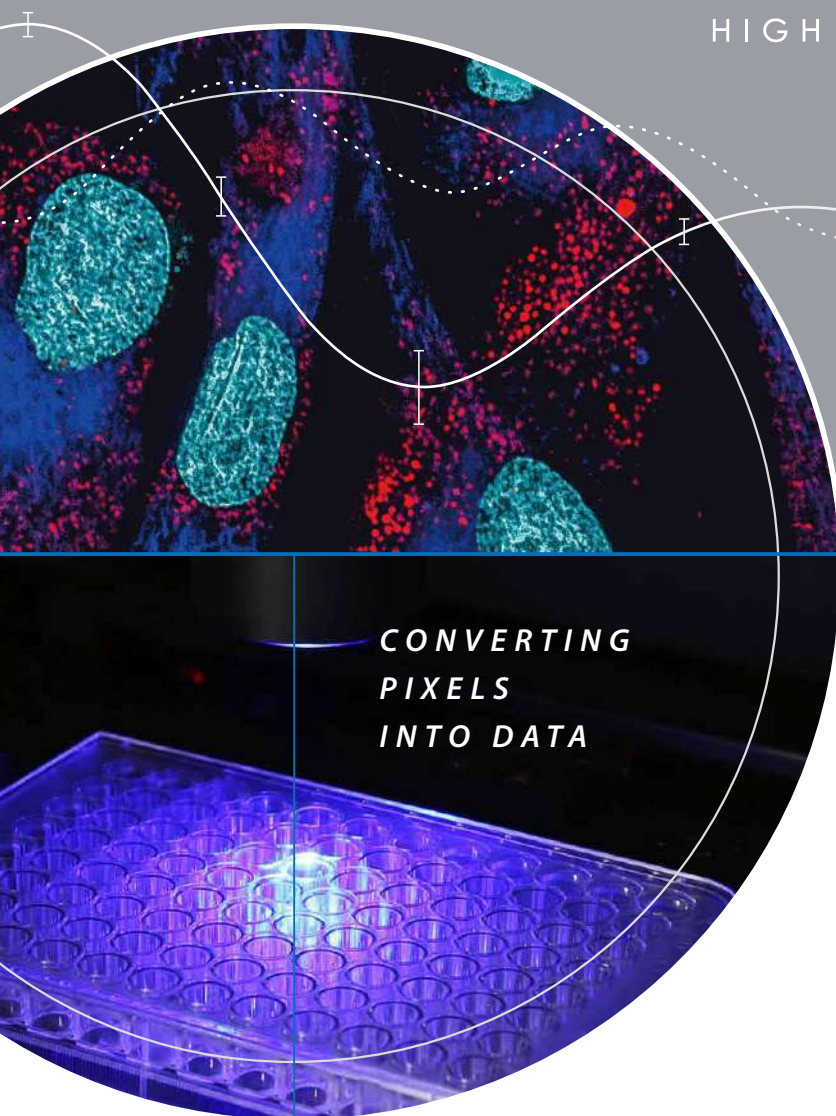


CELENA[®] X

HIGH CONTENT IMAGING SYSTEM



biosystems



THE COMPLETE SOLUTION
TO HIGH CONTENT IMAGING
AND ANALYSIS

THE CELENA[®] X HIGH CONTENT IMAGING SYSTEM

Say hello to the all-new CELENA[®] X High Content Imaging System, the most affordable solution for rapid high content image acquisition and analysis. Customizable imaging protocols, image-based and laser autofocusing modules, and a motorized XYZ stage simplify well plate imaging and slide scanning. Powerful and flexible software allows you to set up advanced image analysis sequences that can be used to quantitatively analyze numerous cellular features for the simplest fixed cell assays to more complicated, time-lapse live cell assays. With the power to capture and quantify cellular information in both fixed and live cells, the CELENA[®] X is a valuable tool for life science research as well as drug discovery and development.

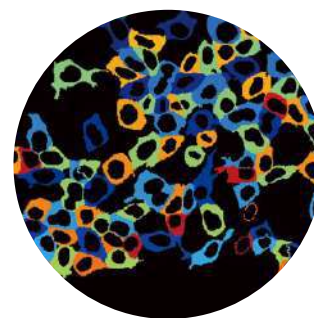
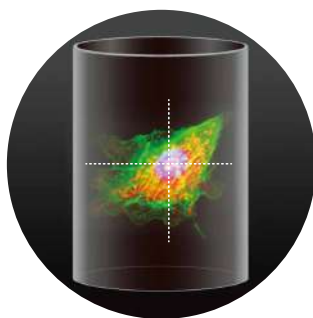
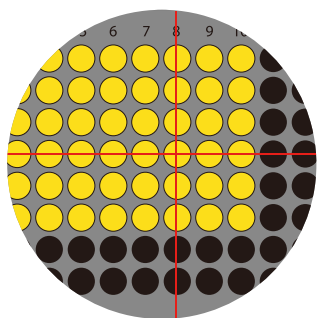


Image acquisition

Image analysis

Data analysis

AUTOMATED KINETIC LIVE CELL ASSAYS

The CELENA®X is a fully automated digital imaging system that makes it easy to set up a time lapse imaging sequence for lengthy cell-based assays. Compatible with onstage incubation systems, a wide variety of experiments in physiological and non-physiological conditions can be performed and captured. The fully automated system will automatically focus in on and capture each specified field in each specified well with the preset imaging conditions.

EXPLORE AND ANALYZE

CELENA®X Explorer is the intuitive and easy-to-use interface for the sophisticated CELENA®X. Even scientists new to imaging can set up automated high-content imaging experiments with ease. Images can be processed and analyzed using CELENA®X Cell Analyzer software to produce statistically robust data.

DIGITAL HIGH CONTENT IMAGING AT ITS FINEST



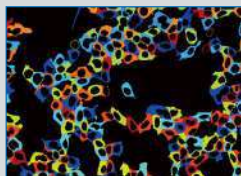
Fully automated plate and slide imaging

- Ideal for kinetic live cell assays, fixed cell assays, and slide scanning
- Motorized XYZ stage, filter cube stage, and objective turret



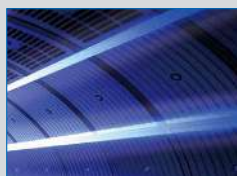
Interchangeable filter cubes and objectives

- Hard-coated LED fluorescence filters
- Compatible with Olympus and Zeiss objectives



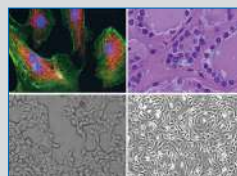
Powerful, easy-to-use user interface

- Simple setup of acquisition channels and parameters
- Seamless integration of imaging and data analysis processes



Laser autofocus

- Rapid and reproducible focusing
- Minimized phototoxicity and photobleaching



Versatile imaging modes

- Four-channel fluorescence, brightfield, color brightfield, and phase contrast imaging
- Z-stack and time lapse capabilities

RELEVANT AND REPRODUCIBLE HIGH CONTENT ANALYSIS WITH CELENA® X CELL ANALYZER

With the CELENA®X, image capture and analysis are integrated seamlessly. The powerful and flexible CELENA®X Cell Analyzer allows for the creation and customization of workflows that can be used for the simplest fixed cell assays to more complicated kinetic live cell assays. Cell Analyzer also provides tools to edit and annotate images as well as create videos.

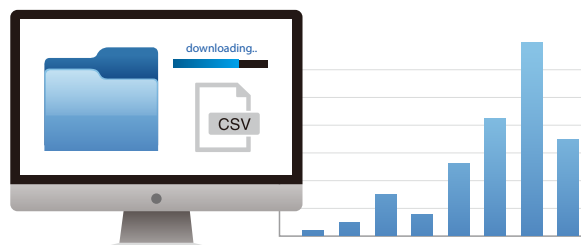
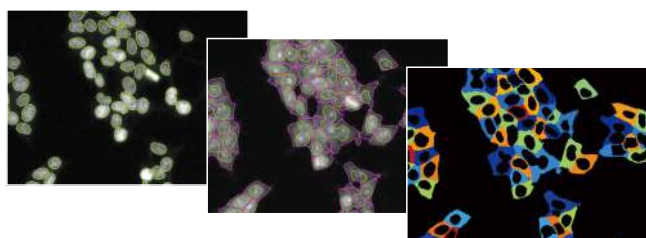


Image analysis

Image processing, object identification, measurements

Data analysis

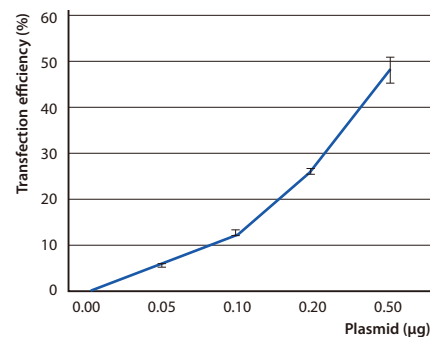
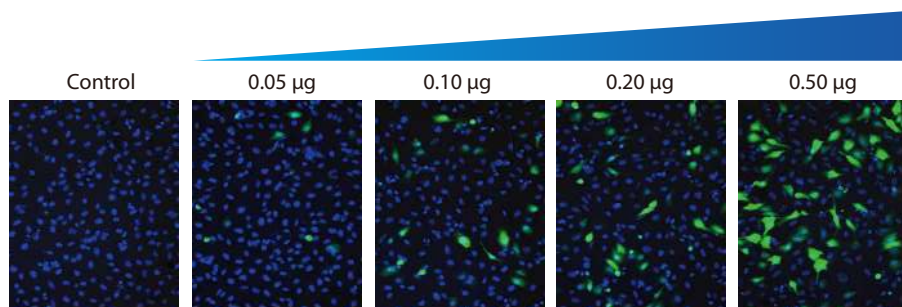
Analyzed images, result files, graphs (coming soon)

CREATE YOUR OWN HIGH CONTENT ANALYSIS WORKFLOWS

Using Cell Analyzer, users can create an image analysis pipeline, which is a sequence of modules that each perform a specific image processing task. This allows the quantitative analysis of multiple cellular features from biological images. Modules can be mixed, matched, and adjusted to measure phenotypes of interest objectively, quantitatively, and reproducibly. Once a pipeline has been established, it can be used to analyze subsequent projects.

QUANTIFY CELLULAR PHENOTYPES ANYWHERE

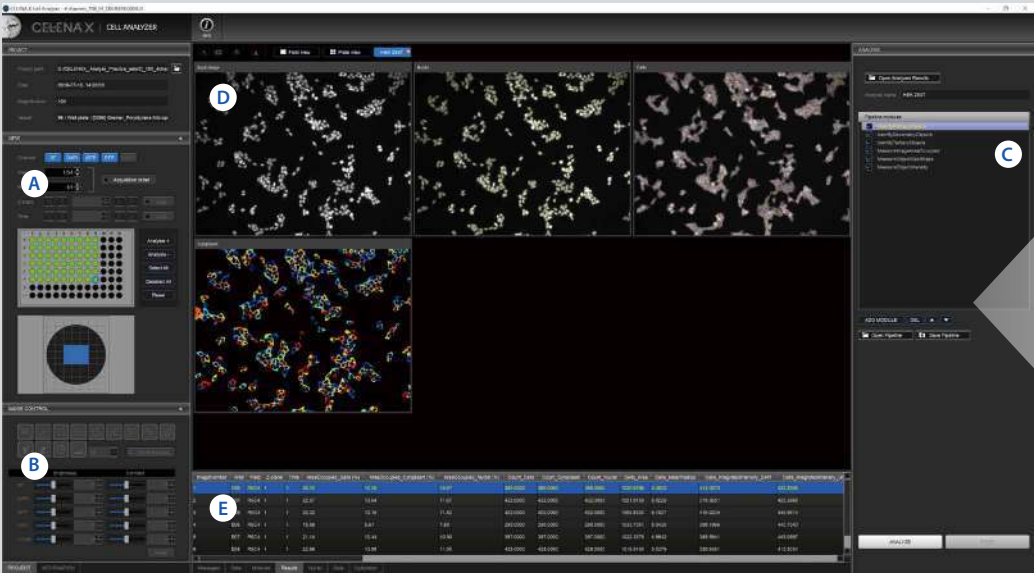
Go straight from imaging to analysis on the CELENA® X or analyze your data at your desk. CELENA®X Cell Analyzer can be installed onto and used on a remote PC for your convenience.



Quantifying the effects of plasmid concentration on transfection efficiency with the CELENA® X.

HeLa cells were transfected with varying concentrations of the GFP-Q103-Htt plasmid (0.05, 0.10, 0.20, and 0.50 µg/well of a 96-well plate), stained with DAPI, and imaged 16 hours post-transfection. CELENA® X Cell Analyzer makes it easy for scientists to analyze transfection efficiency.

WORKFLOW-BASED USER INTERFACE MAKES IT EASY TO PUT TOGETHER ANALYSIS MODULES FOR HIGH CONTENT ANALYSIS.



- (A) Simple vessel navigation
- (B) Annotation and measurement tools
- (C) Intuitive image analysis pipeline creation
- (D) Analyzed images
- (E) Results

ABUNDANT APPLICATIONS

Apoptosis

Autophagy

Cell cycle

Cell counting

Cell growth/proliferation

Cell migration

Cell morphology

Cell viability/toxicity

Co-localization

Confluency

Cytotoxicity

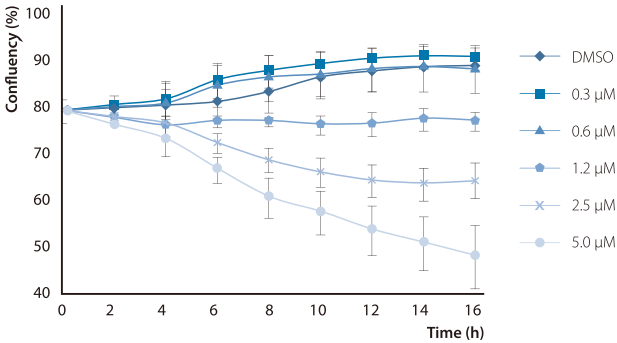
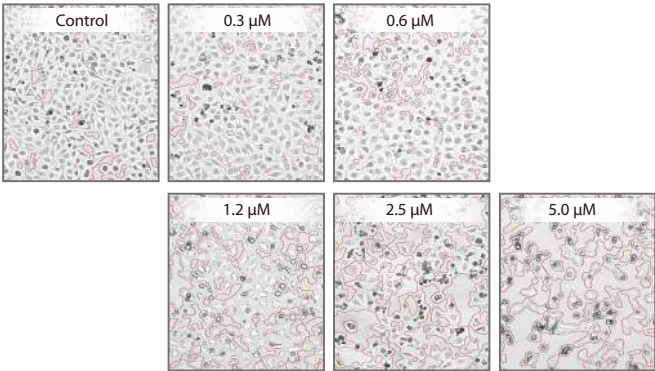
Histology

Immunofluorescence

NF-κB translocation

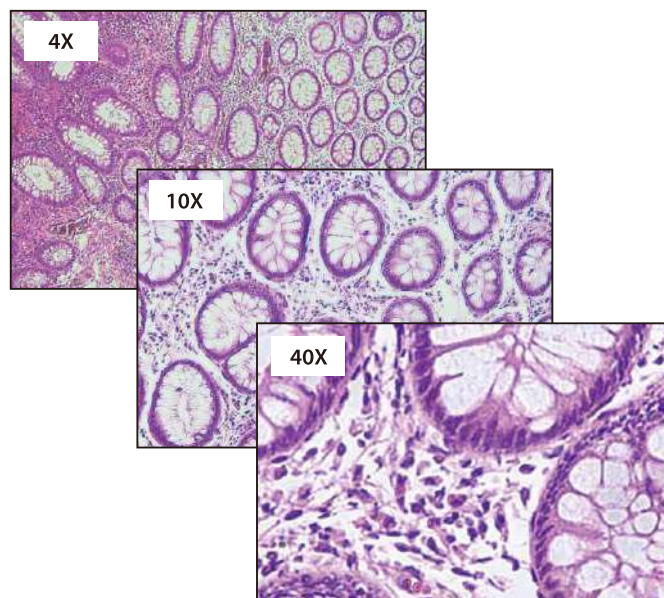
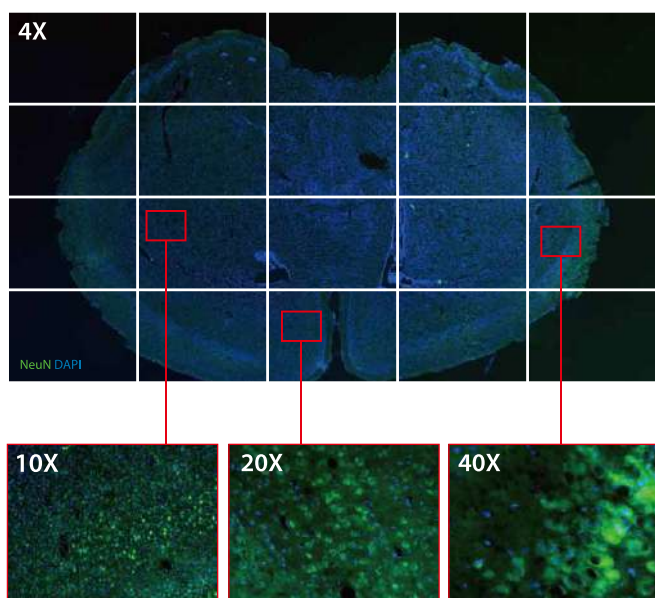
Organoid/spheroid morphology

Transfection efficiency



Evaluating the cytotoxic effects of Camptothecin on HeLa cells with the CELENA® X.

Confluent HeLa cells were treated with varying doses of Camptothecin (CPT) at 2 hour intervals for 6 hours and subsequently imaged to determine how CPT concentration affects cell viability. CELENA®X Cell Analyzer was used to measure the confluency of cells in a multi-well plate in a rapid, reproducible, and quantifiable manner.



Distribution of mature neurons in an adult mouse brain imaged with the CELENA® X.

A coronal section (20 μ m) of an 8-week old mouse brain was immunostained with anti-NeuN and counterstained with DAPI. The motorized XYZ stage and fully automated autofocus simplifies the rapid, high-resolution imaging of large specimens.

Histopathological evaluation of an untreated glioblastoma multiforme (GBM) biopsy specimen with the CELENA® X.

Sections from the tumor were stained with hematoxylin and eosin (H&E) to assess tumor cellularity. The dual camera module with high sensitivity monochrome and color digital cameras enable high-resolution imaging of fluorescence and colorimetrically-stained samples.

Operated with high-quality Olympus objectives

High resolution fluorescence

| Cat # | Objective | NA | WD (mm) | Correction (mm) |
|--------|---------------|------|---------|-----------------|
| I10030 | UPLFLN 4X | 0.13 | 17 | - |
| I10031 | UPLFLN 10X2 | 0.3 | 10 | - |
| I10036 | LUCPLFLN 20X2 | 0.45 | 6.6-7.8 | 0-2 |
| I10037 | LUCPLFLN 40X2 | 0.6 | 2.7-4.0 | 0-2 |

Fluorescence and phase contrast

| Cat # | Objective | NA | WD (mm) | Correction (mm) |
|--------|-----------------|------|---------|-----------------|
| I10038 | UPLFLN 4XPH | 0.13 | 17 | - |
| I10039 | UPLFLN 10X2PH | 0.3 | 10 | 1 |
| I10044 | LUCPLFLN 20XPH2 | 0.45 | 6.6-7.8 | 0-2 |
| I10045 | LUCPLFLN 40XPH2 | 0.6 | 3.0-4.2 | 0-2 |

Low and high magnification

| Cat # | Objective | NA | WD (mm) | Correction (mm) |
|--------|---------------|------|---------|-----------------|
| I10046 | PLAPON 1.25X | 0.04 | 5 | - |
| I10047 | PLAPON 2X | 0.08 | 6.2 | - |
| I10052 | UPLXAPO 60XO | 1.42 | 0.15 | 0.17 |
| I10051 | UPLXAPO 100XO | 1.4 | 0.13 | 0.17 |

Illuminated by hard-coated LED fluorescence filter cubes

| Cat # | Filter cube | Excitation (nm) | Emission (nm) |
|--------|---------------------|-----------------|---------------|
| I10130 | DAPI | 395/25 | 460/50 |
| I10131 | EGFP | 470/30 | 530/50 |
| I10132 | RFP | 530/40 | 605/55 |
| I10133 | mCherry | 580/25 | 645/75 |
| I10134 | ECFP | 436/20 | 480/40 |
| I10135 | EYFP | 500/20 | 535/30 |
| I10136 | DSRed | 530/40 | 620/60 |
| I10137 | Cy5 | 620/60 | 700/75 |
| I10138 | Cy7 | 710/75 | 810/90 |
| I10139 | Cy3/TRITC Long Pass | 530/40 | 570lp |
| I10140 | GFP Long Pass | 470/40 | 500lp |
| I10141 | Cy5 Long Pass | 620/60 | 665lp |
| I10142 | Custom | - | - |

Accessories

| | |
|---------|--|
| CX31002 | CELENA® X Cell Analyzer Verification Key |
| I10410 | Joystick |
| I10411 | Microscope Calibration Slide #1 |

VERSATILE AND CUSTOMIZABLE FOR YOUR CELL IMAGING NEEDS

CX30000

CELENA® X High Content Imaging System

- CELENA® X Controller
 - External PC
 - Microplate Holder
- CELENA® X Cell Analyzer Verification Key
 - Universal Vessel Holder
 - Single Slide Holder



- Camera

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CX30200 Monochrome Camera Module

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CX30201 Dual Camera Module
- Condenser

☐

CX30300 Phase Condenser

☐

CX30301 Brightfield Condenser
- AF module

☐

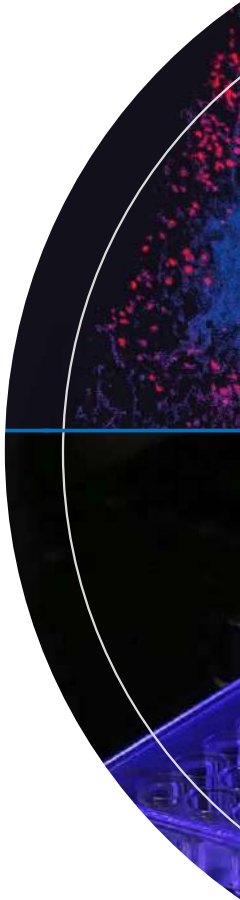
CX30400 Image-based AF

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CX30401 Laser AF Module

| SPECIFICATIONS | |
|-----------------------|--|
| Supported labware | Slides, multi-well plates (6 to 1536 wells), petri dishes, culture flasks |
| Imaging modes | 4-channel fluorescence, brightfield, phase contrast, color brightfield |
| Light source | High-power LED filter cubes with adjustable intensity (>50,000 hours per filter cube) |
| Filter cube stage | Motorized; 4 interchangeable fluorescence filter cubes and 1 brightfield filter cube |
| Available filters | DAPI, EGFP, RFP, mCherry, ECFP, EYFP, DSRed, Cy5, Cy7, Cy3/TRITC Long Pass, GFP Long Pass, Cy5 Long Pass, custom filters |
| Objective turret | Motorized; 5 interchangeable objectives |
| Compatible objectives | 1.25-100X; Olympus, Zeiss, and Logos Biosystems objectives |
| Condenser | Motorized; basic or phase contrast |
| | Basic: 60 mm LWD condenser, 4 positions |
| | Phase contrast: 60 mm LWD condenser, 4 positions with 3 phase annuli |
| Camera | Monochrome: CMOS, 1.92 MP |
| | (optional) Color: CMOS, 1.92 MP |
| Image outputs | Monochrome: 16-bit (12-bit dynamic range) TIF, PNG, or JPG |
| | Color: 24-bit color TIF, PNG, or JPG |
| | Movies: MP4 |
| Autofocus method | Image-based autofocus |
| | (optional) Laser autofocus |
| Stage | Motorized X/Y-stage (120 mm x 80 mm); motorized Z-stage (10 mm) |
| Stage control | CELENA® X Explorer |
| | (optional) Joystick |
| Computer | External PC |
| Monitor | 27" 4K UHD monitor (not included) |
| Software | User interface: CELENA® X Explorer |
| | Analysis: CELENA® X Cell Analyzer |
| Power | 100-240 VAC, 250 W, 50/60 Hz |
| Dimensions | Main body: 39 x 46 x 50 cm (15.4 x 18.1 x 19.7 in) |
| | Controller: 17 x 30 x 23 cm (6.7 x 11.8 x 9.1 in) |
| Weight | Main body: 33 kg (72.8 lbs) |
| | Controller: 7 kg (15.4 lbs) |

CELENA[®]X | HIGH CONTENT IMAGING SYSTEM



www.logosbio.com
LBSM-RD-BR-CLX-001

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