

# OLYMPUS®

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## Cell Culture Solutions

### Cell Culture Essentials

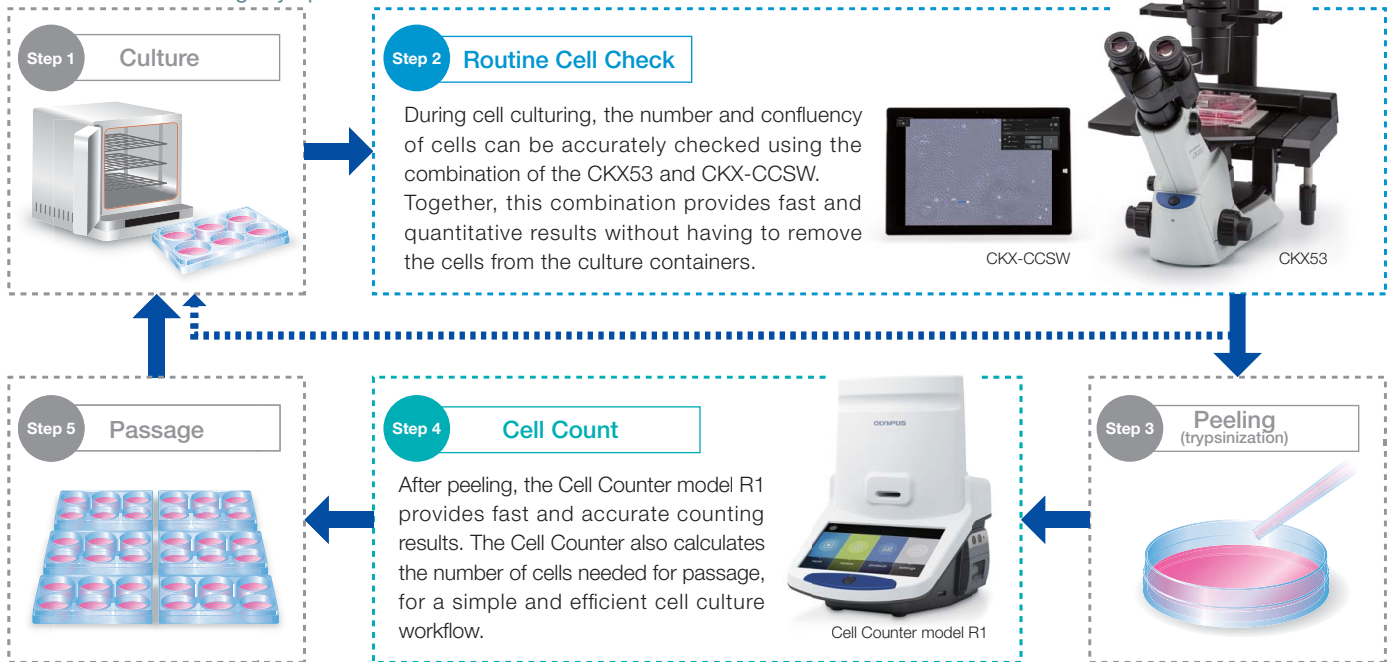
**NEW**



# Solutions for a Simple, Efficient, and Reproducible Cell Culture Process

Olympus cell culture lineup — the combination of the CKX53 culture microscope, the CKX-CCSW confluency checker software and the Cell Counter model R1 — create an efficient workflow for live cell observation and counting. All of these devices are designed to be easy to use for a fast counting procedure. The data are accurate and reproducible, providing a quantitative record and robust quality control of the cell culture process.

Efficient workflow using Olympus cell culture solutions



## CKX53 Culture Microscope

### Quick and Efficient Cell Observation with a Wide Field of View

The CKX53 culture microscope provides a clear, wide view for obtaining images that provide a comprehensive understanding of the cells' condition and activity. The same ring slit can be used with 4X to 40X objectives, enabling smooth cell observation and efficient screening. Moreover, clear images can be captured for record keeping using the camera port, a standard feature of the CKX53.



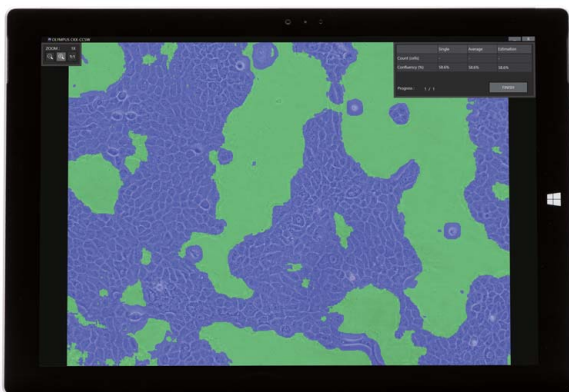
## Olympus solutions address different needs in the cell culture process

<b>Step 2</b>	<b>Routine Cell Check</b>	CKX-CCSW Software	<b>Step 4</b>	<b>Cell Count</b>	Cell Counter model R1
<b>Suitable counting environment</b>					
<ul style="list-style-type: none"> <li>Counting cells in culture containers without a peeling process</li> </ul>			<ul style="list-style-type: none"> <li>Counting cells collected in microtubes after the peeling process</li> </ul>		
<b>Applicable to</b>					
<ul style="list-style-type: none"> <li>Quantitative counting of :                             <ul style="list-style-type: none"> <li>cells cultured in culture containers</li> <li>cell clusters, including iPS/ES colonies</li> </ul> </li> <li>Checking cell confluency/density in culture containers</li> </ul>			<ul style="list-style-type: none"> <li>Counting a specific volume of cells, including those floating in a culture container and collected in microtubes.</li> <li>Counting live or dead cells</li> </ul>		
<b>Useful in</b>					
<ul style="list-style-type: none"> <li>Obtaining information concerning cell growth and passage timing</li> <li>Estimating the amount of drug or medium that needs to be added to cultured cells</li> </ul>			<ul style="list-style-type: none"> <li>Achieving accurate cell counts for passage or for experiments</li> </ul>		

### CKX-CCSW Software

#### Reliable Cell Counting and Confluency Check during the Cell Culture Process

For routine checks of cultured cells, the CKX-CCSW software counts cells and measures cell growth without the peeling process. Potential contamination is avoided because cells adhering to culture containers can be counted in the culture vessel. Moreover, the CKX-CCSW has a simple GUI that is easy to use and provides quick results using its unique counting algorithm. Data is stored as CSV files or image files showing cell growth, both of which can be kept as records.



### Cell Counter model R1

#### Quick and Accurate Cell Counting that Streamlines the Cell Culture Process

The Cell Counter provides accurate cell count results, which are useful for cell plating. Counting can be performed with minimal risk of human error and can be finished in a shorter time compared with counting using a hemacytometer. The instant automatic report function for the counting results comes in handy for smooth passage. The simple GUI and stand-alone design make the Cell Counter R1 easy to use.



## CKX53 Main Specification

Observation Method	Brightfield, phase contrast, fluorescence, IVC
Optimal System	UIS2 (Universal Infinity-corrected) optical system
Light Source	LED (4,000 K)
Condenser	NA 0.3, W.D. 72 mm Applicable objective magnification 2X, 4X, 10X, 20X and 40X Up to 190 mm height tissue flask can be loaded on the stage without detachable condenser
Eyepiece	Magnification: 10X, FN 22
Stage	Plain stage: 252 mm (D) x 200 mm (W) Sub stage: 180 mm (D) x 70 mm (W)
Contrast Slider	Pre-centered phase contrast aperture for 4X, 10X, 20X, and 40X and 2 $\phi$ 45 mm empty apertures Insertion direction can be adjusted by the range of $\pm 30$ degrees to right or left sides
Weight	6.9 kg (approx.)
Power consumption	Less than 4 W

## CKX-CCSW Main Specification

Function	Cell counting, checking cell confluency
Camera	DP22/DP27
Cell Diameter Range	10 – 200 $\mu$ m (Optimal: 30 – 60 $\mu$ m)
Output Information	Total cell number and cell density per area both in the image and the whole cell culture vessel
Image Format	Input: TIFF, JPEG (max 4608 x 3456) Output: TIFF, JPEG
Measurement Result File Format	TIFF (Overlay image), CSV
Support language	English, Japanese, Simplified Chinese

## CKX-CCSW Recommended System Requirements

OS	Microsoft Windows 8.1 Pro (32-bit/64-bit) Microsoft Windows 8 Pro (32-bit/64-bit) Microsoft Windows 7 Ultimate/ Professional (32-bit/64-bit) SP1
OS Language	English, Japanese, Simplified Chinese
CPU	Intel Atom/Core i3/Core i5/Core i7/Xeon Recommended: Core i3 or higher
RAM	4 GB or more
Graphic Card	Tablet PC: 1980 x 1080 (min. 8.3 inch display) Laptop and Desktop PC: 1280 x 1024 (min. 1024 x 768)
Port	USB 3.0 (DP22/DP27)
HDD	1 GB for installation

## Cell Counter model R1 Main Specification

Cell Counting Time*1	Less than 10 s (manual focusing) Less than 15 s (auto focusing)
Cell Concentration Range	$5 \times 10^4$ – $1 \times 10^7$ cells/mL
Cell Diameter Range	3 - 60 $\mu$ m (Optimal: 8 – 30 $\mu$ m)
Output Information*2	Total cell concentration and number, Live / Dead cell concentration and number, Viability, Average cell size
Image Resolution	5 megapixels, Color
Report Format	PDF
Display	7-inch LCD touch screen
USB port	3 ports
Dimensions	195 mm (W) x 237 mm (D) x 272 mm (H)
Weight	2.1 kg (without the external power adapter)
Power Consumption	Less than 30 W

\*1: Cell counting at less than  $1 \times 10^6$  cells/mL concentration of HeLa or HL-60 cells.

\*2: Live / Dead cell concentration, number and cell viability can be available with trypan blue mode.

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- OLYMPUS CORPORATION is ISO14001 certified.
- OLYMPUS CORPORATION is ISO9001 certified.
- Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our website for details.

- All company and product names are registered trademarks and/or trademarks of their respective owners.
- Images on the PC monitors are simulated.
- Specifications and appearances are subject to change without any notice or obligation on the part of the manufacturer.

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