

Galatek

G-Cell Confocal High Content Imaging System

See Beyond Sight. Perceive the Microscopic Truth.



Breaking the limits of wide-field imaging, enabling ultra-high resolution and high throughput imaging for deeper analysis of complex biological samples

High-throughput

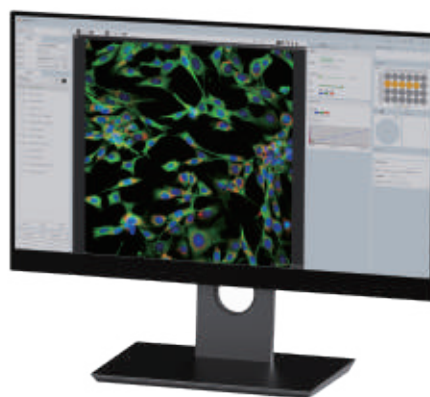
Desktop-based

AI

Automation

Instrument Introduction

Galatek G-Cell Confocal High Content Cell Imaging and Analysis System equipped with a high-resolution sCMOS camera and a high-speed pinhole confocal spinning disk. By overcoming the limitations of wide-field imaging, it delivers high-performance confocal image acquisition, enabling precise visualization and deeper insights into 3D cellular structures and dynamics. It supports a variety of image processing and analysis algorithms, offering flexible configuration and intuitive operation to empower and enhance research efficiency for your laboratory or platform.



Configuration Characteristics



Brightfield imaging + fluorescence imaging + digital phase contrast

Meeting diverse observation and analysis needs



Fluorescence channels: five-laser sources

Low phototoxicity, excellent monochromaticity, narrow-band crosstalk suppression



High-resolution research-grade sCMOS camera

Significantly improves sensitivity and clarity



Infrared laser/image-based autofocus

Fast focus on complex consumables and sample



Stage with sub-micron resolution and high precision

Fine observation, adjustable movement speed



Large-field imaging

Field of view of 0.8×0.8 mm under 20 $\times$ objective



Fast imaging

The whole plate imaging time of 96-well plate with single field and dual channel is less than 2.5 minutes



Extensive research dimensions

Supports Z-stacking, time lapse imaging, and flexible selection of field of view



Compatible with multiple consumables

Supports 6-1536 well plates, culture dishes, glass slides, inserts



Diverse objective options

2 $\times$ –60 $\times$, with optional high NA plan-apochromatic and long working distance objectives

Product Features

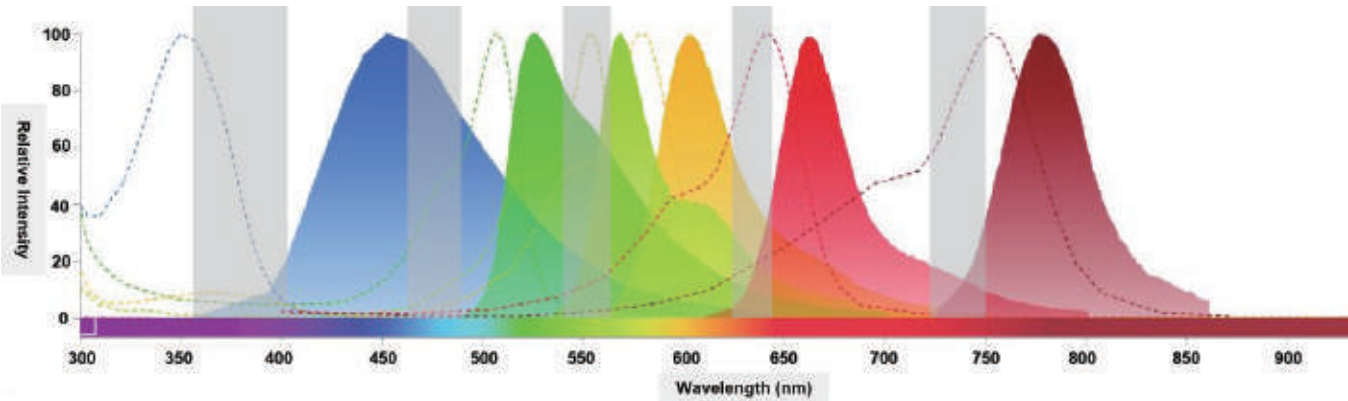
High-throughput

Desktop-based

AI

Continuous upgrades

Fluorescence Channel Configuration



Channel wavelength (nm)	405	488	561	638	730
Excitation band (nm)	357-405	461-488	543-566	625-646	719-750
Emission band (nm)	412-450	498-531	578-612	660-702	766-849

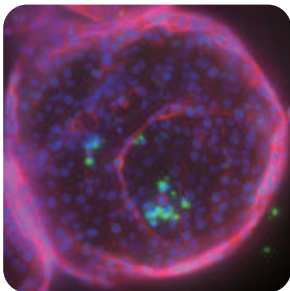
Comprehensive Upgrade from Wide-field to Confocal Imaging

Hardware configuration upgrade to improve imaging quality

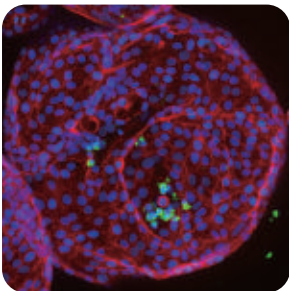
- High-performance laser source improves the monochromaticity and energy density of excitation light, and enhances the signal intensity of fluorescence imaging;
- High-resolution research-grade sCMOS camera, with comprehensive enhanced quantum efficiency and signal-to-noise ratio, delivers up to 110 fps for capturing ultra-fast dynamic signals;

High-resolution confocal 3D imaging

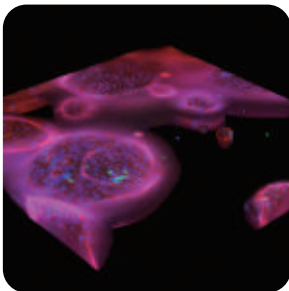
- High-speed pinhole confocal spinning disk balances sensitivity and acquisition speed, supporting flexible switching between wide-field and confocal modes;
- Eliminates out-of-focus glare interference, improves optical sectioning capabilities, and expands applications from 2D to 3D imaging;



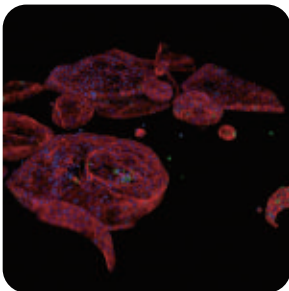
3D gastric cancer cells
Wide-field Z-Stack projection



3D gastric cancer cells
Confocal Z-Stack projection



3D gastric cancer cells
Wide-field 3D reconstruction



3D gastric cancer cells
Confocal 3D reconstruction

Configuration Information

G-Cell Confocal model supports upgrade and flexible configuration with optional modules.



Supports optional live cell culture module, enabling precise control of temperature, humidity, and CO₂ concentration throughout the experiment. Supports long-term living cell culture, and combined with G-Cell Confocal high-throughput image acquisition function, allows continuous, complete and undisturbed capture of cellular dynamics.



Supports integration with automated platforms and can be equipped with Galatek laboratory intelligent management platform. Enables fully unattended and provides customers with comprehensive overall solutions.

Configuration	Parameters
Optical system	Confocal imaging, wide-field imaging, switchable
Imaging Type	Brightfield, color brightfield, fluorescence, digital phase contrast
Confocal	50 μ m pinhole spinning disk confocal
Fluorescence channel	5 channels (405 nm, 488 nm, 561 nm, 638 nm, 730 nm)
Light source	Brightfield LED, fluorescent laser
Camera	sCMOS
Camera resolution	26 million pixels
Camera frame rate	Up to 110 fps
Objective	4-position motorized turret, 2 $\times$ ~ 60 $\times$ (APO or long working distance objective lenses optional)
Field of view	0.8 mm $\times$ 0.8 mm @ 20 $\times$
Stage travel	X 120 mm, Y 80 mm, Z 6 mm
Stage repeatability	X / Y 0.4 m, Z 0.1 m
Max. stage speed	X / Y 50 mm/s
Consumable type	6-1536 well plates, culture dishes, and slides
Focusing mode	Infrared laser focusing, image focusing
Analysis	Traditional image recognition algorithm and AI algorithm
Software	Image acquisition software and analysis software, enabling simultaneous analysis during experiments.
Dimensions	820 mm $\times$ 445 mm $\times$ 500 mm
Live cell culture module	Optional, supports temperature, humidity, CO ₂ concentration control
Automated integration	Supported

GalaTek GmbH

Munich Germany, Singapore,
the United States, Japan, China
Global Headquarter: Singapore
officialmail@galatek.ai

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