

# Agilent BioTek BioSpa Live Cell Analysis System

## Product description



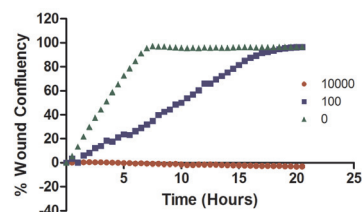
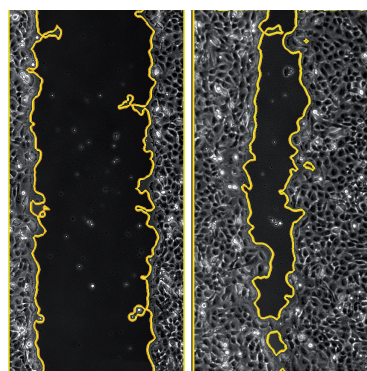
**Figure 1.** The Agilent BioTek BioSpa 8 automated incubator transfers microplates from the incubator to the Cytation cell imaging multimode reader.

The Agilent BioTek BioSpa live cell analysis system automates many applications in multiple plates for continuous live cell imaging and analysis. The core Agilent BioTek BioSpa system includes BioSpa 8 automated incubator and Cytation cell imaging multimode reader – together, they automate kinetic live cell workflows in multiple plates for hours, days or weeks. It's easy to add dispensers or washers to automate the entire process from cell culture, plating, media exchanges and washing through image capture and analysis. Agilent BioTek Gen5 microplate reader and imager software easily enables high quality real-time image capture and data-rich quantitative analysis for complete phenotypic expression data.

The system provides temperature, gas and humidity control for up to eight microplates for short- and long-term assays. BioSpa software seamlessly integrates and schedules liquid handling, incubation, imaging and data analysis while providing constant monitoring of all environmental conditions and processing steps. The BioSpa OnDemand mode provides a simple, efficient interface for imaging or detection-only workflows with multi-user flexibility. The BioSpa brings increased productivity at an affordable price to many laboratories.

## Features

- Unattended automation for up to eight plates or other labware
- Temperature and CO<sub>2</sub>/O<sub>2</sub> control and humidity monitoring
- Time lapse, z-stacking and montage image capture
- Fluorescence, brightfield, color brightfield and phase contrast
- Up to 60x magnification and four color channels
- OnDemand mode for multiple users and on-the-fly labware addition/removal
- Continuously records environment conditions, includes customized notifications
- Powerful image analysis, cell counting, cytoplasm analysis, spot counting, subpopulation analysis
- Available media exchange and washing with added dispenser, washer or combined systems



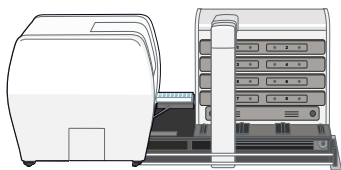
**Figure 2.** HT-1080 cells migrating in a scratch wound assay and image analysis in Gen5 microplate reader and imager software.

## Typical applications

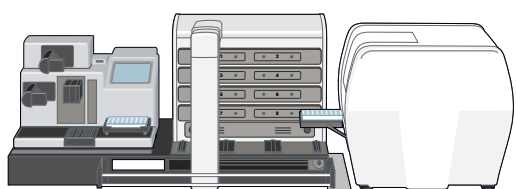
- 2D and 3D cell imaging
- Label-free cell counting
- Cell migration/scratch wound healing assays
- Cell proliferation and cytotoxicity assays
- Apoptosis assays
- Phenotypic assays

## Configurations

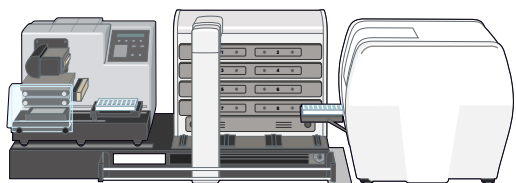
BioSpa live cell analysis systems can be configured with Agilent BioTek BioSpa 8 automated incubator, Agilent BioTek Cytation and other compatible washers and dispensers products.



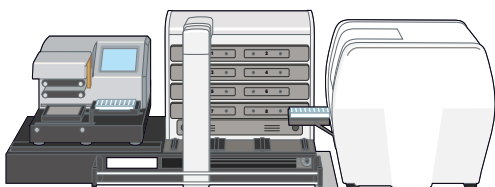
**Figure 3.** Agilent BioTek BioSpa 8 automated incubator and Agilent BioTek Cytation cell imaging multimode reader.



**Figure 4.** A typical Agilent BioTek BioSpa live cell analysis system includes Agilent BioTek MultiFlo FX multimode dispenser, Agilent BioTek BioSpa 8 automated incubator and Agilent BioTek Cytation cell imaging multimode reader.



**Figure 5.** Agilent BioTek EL406 washer dispenser, Agilent BioTek BioSpa 8 automated incubator and Agilent BioTek Cytation cell imaging multimode reader.



**Figure 6.** Agilent BioTek 405 TS washer, Agilent BioTek BioSpa 8 automated incubator and Agilent BioTek Cytation cell imaging multimode reader.

## Technical details

General	
Microplate Types	6- to 1536-well standard height microplates, with or without lids
Plate Height Range	7.6 mm to 25.4 mm
Other Labware Supported	Cell culture dishes (60 mm and 35 mm)
Lidded Plate Handling	BioSpa 8 handles plate de-lidding or re-lidding
Microplate Capacity	Up to 8 microplates or other labware
Air Filter	User-replaceable HEPA filter
Compatible Instruments	Agilent BioTek Cytation C10, Agilent BioTek Cytation 7, Agilent BioTek Cytation 5, Agilent BioTek Cytation 1, Agilent BioTek EL406, Agilent BioTek 405 TS, Agilent BioTek 405 LS, Agilent BioTek MultiFlo FX
Temperature Control	To 45 °C
Software	BioSpa software; Gen5 software; Liquid Handling Control (LHC) software (instrument dependent)
CO <sub>2</sub> and O <sub>2</sub> Control	Range: 0 - 20% (CO <sub>2</sub> ); 1 - 19% (O <sub>2</sub> )
Humidity	rH: 80 to 95% (lidded plates and 5% CO <sub>2</sub> ) Source: removable water pan Water level sensor: low water level alert
Imaging system	
Imaging Modes	Fluorescence, brightfield, high contrast brightfield, phase contrast, color brightfield
Imaging Method	Confocal and widefield: Single color, multi-color, montage, time lapse, z-stacking
Image Processing	Z-projection, digital phase contrast, stitching
Camera	16-bit grayscale Sony
Objective Capacity	6 user-replaceable objectives
Objectives Available	1.25x, 2.5x, 4x, 10x, 20x, 40x, 60x
Phase Objectives Available	4x, 10x, 20x, 40x
Image Filter Cube Capacity	4 user-replaceable fluorescence cubes plus brightfield channel
Imaging Filter Cubes Available	More than 20 colors available
Imaging LED Cubes Available	365 nm, 390 nm, 465 nm, 505 nm, 523 nm, 590 nm, 623 nm, 655 nm, 740 nm
Automated Functions	User-trained autofocus, autofocus, autoexposure, auto-LED intensity
Autofocus Methods	Image-based autofocus, user-trained autofocus, laser autofocus (option)
Other	
Technical details for Agilent BioTek microplate washers and dispensers vary by instrument.	

[www.agilent.com/lifesciences/biotek](http://www.agilent.com/lifesciences/biotek)

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