

Colony counting Plaque counting Genotoxic assays



... and beyond!

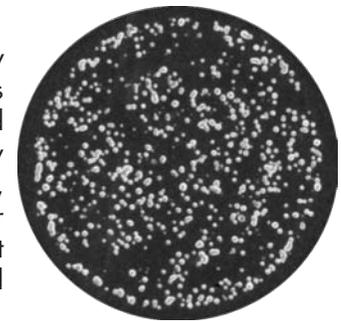
Traditional methods for microbial load and bioburden testing tend to be tedious and inefficient. They typically involve growing colonies in 60-100 mm Petri dishes and counting them by eye, making the process time-consuming and highly subjective.

But not anymore. CTL's new BioSpot® Analyzers enable the use of miniaturized colonies, high-throughput plate formats, and automated image analysis. BioSpot® machines turn colony counting into a quick, easy, and accurate process that is readily validated for laboratory use.

BioSpot® Analyzers are more than just fast, accurate, and efficient, though. They are also highly versatile, supporting a wide range of bioassay applications.

Microbial assays

The ability to rapidly and reliably enumerate bacterial colonies is paramount for microbial load and bioburden testing in product safety markets such as food and dairy, environmental screening (water and air), personal care product and pharmaceutical testing, and toxicology screening.



Conventionally, these tests have been conducted manually with minimal throughput and high subjectivity. Recently though, there has been an extensive effort to develop alternative (rapid) methods to replace the slow and tedious established methods. Because BioSpot® Analyzers enable both colony miniaturization and automated analysis, they produce a dramatic increase in speed, throughput and reproducibility.

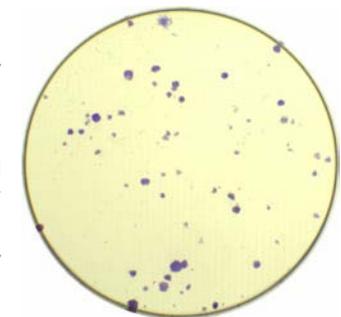
Applications include:

- Microbial assays
 - Microbial load testing
 - Sterility testing
 - Bioburden testing
- Mammalian colony assays
 - Clonogenic assays
 - Stem cell assays
- Genotoxic assays
 - Ames tests
 - Mouse lymphoma assays
- Viral plaque counting

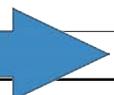
... and much more!

Mammalian colony assays

Mammalian colony formation assays are important tools in oncology and stem cell research, both of which rely on visual enumeration of colonies. Clonogenic assays, for example, are typically used for testing ionizing radiation and drug treatments for cancer therapeutic potential. Stem cell assays are used to identify multipotent progenitor cells from bone marrow, cord blood and peripheral blood.

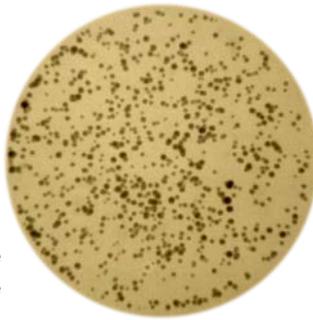


Mammalian colony formation assays rely on the ability to distinguish colonies from a background of single cells. The BioSpot® product line enables colonies to be size-selected for enumeration, thus counting only true colonies.

More applications follow 

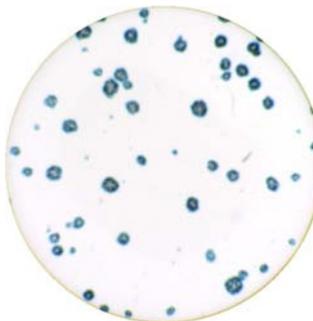
Genotoxic assays

Genotoxic assays are used to measure mutagenic potential by detecting forward or reverse mutations with selective media. Genotoxic assays use either mammalian cells (e.g., mouse lymphoma assays) or microbes (e.g., Ames tests) and are easily imaged and counted using the BioSpot® system.



Viral plaque assays

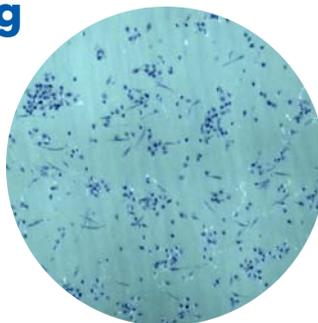
Localized lysis of virus-infected cells in a confluent monolayer produces plaques that can be detected through direct staining or by staining cells in the monolayer. Viral plaque assays use either a monolayer of mammalian cells or a bacterial lawn. The size and morphology of viral plaques is highly variable and notoriously difficult to detect and count.



BioSpot® Analyzers perform multiple object-oriented morphometric measurements, enabling user-defined gating to separate plaques from a complex background. This compensates for the inherent variability in plaque assays and enables reliable enumeration.

Stained cell counting

The BioSpot™ S6 Micro and S6 UV Analyzers are characterized by their high-resolution cameras and distortion-free, high-power optical designs. This combination provides the high magnification levels and image resolution required by viability counting and other stained cell applications.



Would you like to learn more about the various BioSpot® Analyzers? CTL provides comprehensive literature on each BioSpot® Analyzer model and a detailed overview of the entire BioSpot® product line.

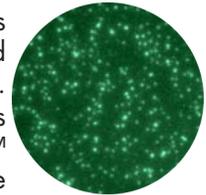
For further information, please contact us at ctl-europe@immunospot.com. You can also visit our website at www.immunospot.eu

Major BioSpot® features

- Compatible with all plate formats from 100 mm Petri dishes to 96-well microplates.
- Proprietary illumination enables detection of colonies as small as 25 µm in diameter.
- Ideally suited for rapid, high-throughput applications.
- Compliant with 21 CFR part 11 and GLP regulations when operated with the BioCompliance™ package.

Fluorescent bioassays

BioSpot® applications are by no means limited to visible light assays. The S6 UV Analyzer's proprietary UVSpot™ technology gives users the ability to perform fluorescent microbial detection in addition to more conventional assays.



How BioSpot® Analyzers support diverse applications

BioSpot® Analyzers are designed with versatility and performance in mind. CTL's advanced lighting technologies, for example, can be readily configured to provide sharp contrast for a wide range of substrate colors and assay types. BioSpot® Analyzers can also accommodate a wide range of plate formats—60 or 100 mm Petri dishes and 6- to 96-well microplates. No matter which plate format you prefer, there is a BioSpot® machine that's designed to use it.

In addition, the revolutionary BioSpot® software combines full versatility with built-in spot recognition intelligence. The BioSpot® software makes plate analysis quick and easy, while also giving users all the flexibility they need to analyze a wide range of biological assays.