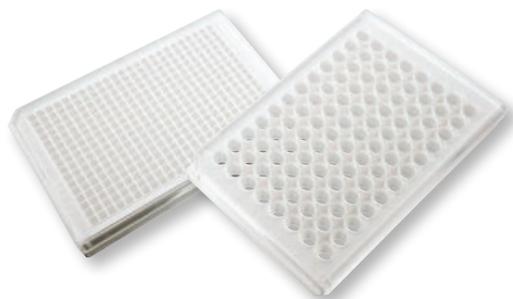


HUMAN HEALTH

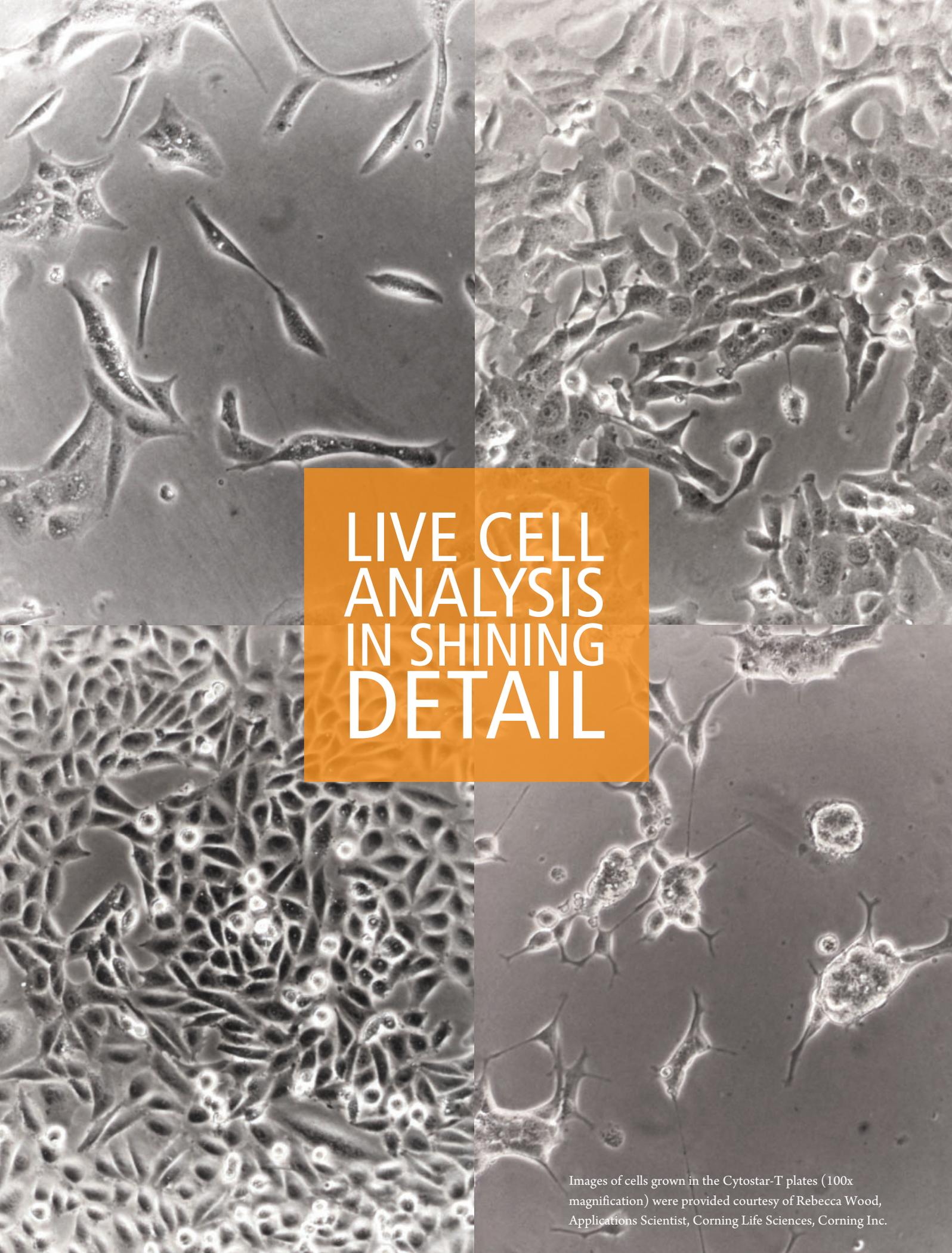
ENVIRONMENTAL HEALTH

GET THE CLARITY
YOU'VE BEEN
WISHING FOR



Cytostar-T® Scintillating Microplates
96- and 384-well formats





LIVE CELL ANALYSIS IN SHINING DETAIL

Images of cells grown in the Cytostar-T plates (100x magnification) were provided courtesy of Rebecca Wood, Applications Scientist, Corning Life Sciences, Corning Inc.

MANY CELLULAR QUESTIONS
**ONE CLEAR
SOLUTION**

Cytostar-T scintillating microplates are at the center of the world's only complete SPA solution. Let PerkinElmer help you choose from among our selection of SPA beads and reagents and scintillation counters to find the right solution for your most challenging cellular problems. From uniquely bright signals to cell visualization to custom coatings, we'll help you bring more clarity to your research.

The features you've wished for. The benefits you'll see.

Uses β-emitting isotopes, ^3H , ^{14}C , ^{33}P , ^{35}S , ^{45}Ca , ^{125}I	➤ Exceptionally bright signals for exceptionally clear results
Versatile	➤ Enables a wide range of cell-based applications, from cell proliferation to signal transduction studies
Homogeneous; scintillant incorporated into baseplate	➤ No separation steps to improve signal to noise; real-time, non-invasive quantitation; automation-ready
Transparent base	➤ Allows visualization of cellular morphology using microscopy
Standard footprint	➤ Compatible with standard scintillation counters, MicroBeta ² [®] and TopCount [®] scintillation counters
Tissue culture-treated	➤ Suitable for culture of adherent cell lines
Scintillant incorporated within the base	➤ No liquid scintillation cocktails to add; no scintillant disposal costs
96- and 384-well plates	➤ Scalable, real-time measurement of a wide range of cellular processes
Customized coatings	➤ Allow studies of suspension cells (e.g., poly-D-lysine) or other specific project needs
Expert team	➤ An experienced drug discovery sales team that understands your science, tailors a solution to your specific needs and provides dependable global support for you and your lab

MicroBeta² Liquid Scintillation and Luminescence Counter



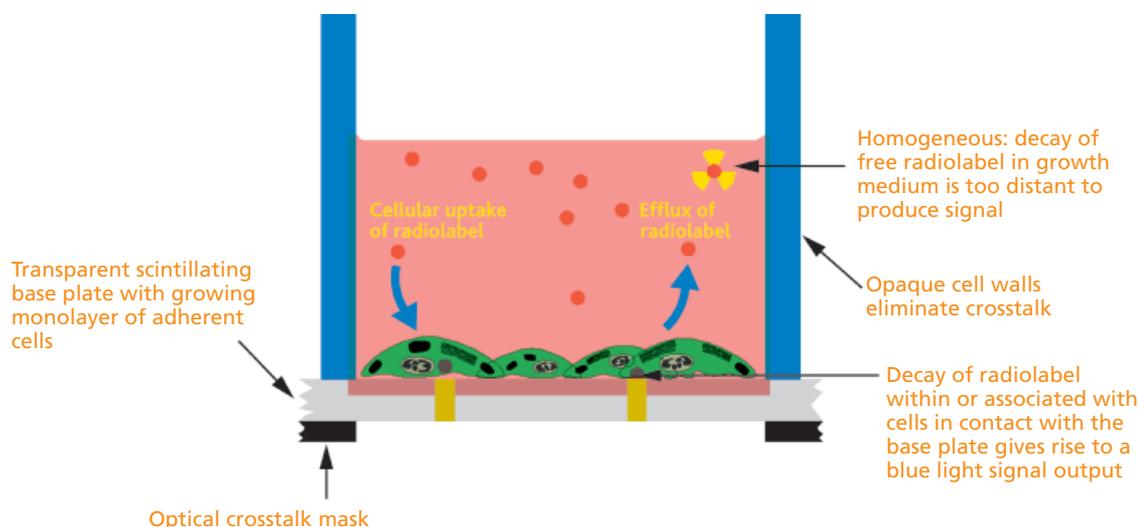
TopCount Microplate Scintillation and Luminescence Counter



CYTOSTAR-T PLATES: THE POWER OF PROXIMITY

Cytostar-T scintillating microplates are based on the principles of SPA technology, allowing non-invasive, real-time analysis of live cells. In Cytostar-T assays, live cells take up radiolabeled molecules (β -emitting nuclides, such as ^3H , ^{14}C , ^{33}P , ^{35}S , ^{45}Ca and ^{125}I). The proximity of the labeled live cell to the plate base delivers the precision and clarity that allow assessment and analysis by scintillation counter in this homogeneous format (illustrated below).

The SPA Assay Principle



As shown, the β -particles released upon decay of these nuclides can only travel a short distance in aqueous solution. A blue light signal can only be generated in a scintillation counter if the β -particles encounter scintillant molecules along this short path. Cytostar-T plates allow this "scintillating proximity" at the plate base, enabling scintillation counting. The clear bottom also enables microscopic assessment of cells for morphological changes. And because Cytostar-T plates allow a live cell format, you can reduce the number of cells required for your study.



Cytostar-T Scintillating Microplates

Real-time. Non-invasive quantitation. A true cell analysis star.

High content cellular analysis made easier. Now you can visualize cell growth and then screen your biological reaction in the context of the normal physiology of the live cell. Introducing Cytostar-T scintillating microplates – the clear-bottomed, tissue culture-treated, sterile microplates optimized for scintillating proximity assay (SPA) applications.

384 wells for higher throughput. Now available in 384-well format, Cytostar-T plates make it possible to perform non-invasive, real-time cellular analysis with higher throughput. The plates enable you to use fewer cells per well while capturing data using standard plate-based scintillation counters.

Exceptional signal clarity. With scintillant incorporated into the resin of the plate base, Cytostar-T microplates are designed for use with β -emitting radiolabeled biomolecules. Radioactive decay is captured as blue light output with signal clarity you simply can't get with other microplates. The signal is detectable using any plate-based scintillation counter. So you get an exceptionally clear signal while saving on cells, scintillant and specialized instrumentation costs.

Sterile and tissue culture-treated, Cytostar-T plate bases are transparent, enabling visualization of cells using an inverted microscope throughout the course of the experiment. From ADME studies to cell proliferation to mRNA quantitation to receptor binding studies, Cytostar-T plates give you live cell analysis in a whole new light.

Only PerkinElmer gives you the ability to perform plate-based real-time cell analysis using low cell counts for multiple cell-based applications.

Do more. See more. That's the clear advantage of Cytostar-T plates.

Cytostar-T microplates are ideal for a wide range of cell-based assay applications. Because they're tissue culture-treated, they're suitable for non-radiometric sampling and assays as well, such as staining or enzyme activity. Applications include the following:

ADME Studies

Early ADME studies are enabled: absorption of the labeled compound into cells, metabolism of drug candidates and cellular excretion of the whole or drug metabolites can be studied.

Cell Motility

Movement of radiolabeled cells along the surface or through a monolayer grown on a collagen base above the base plate (diapedesis) can be monitored.

Cell Proliferation

Incorporation of ³H-Thymidine into DNA in proliferating cells is readily monitored in homogeneous format.

Cell Viability

In response to drug treatments, the increase or decrease in signal from ³H-Thymidine incorporated into DNA can be monitored in real-time.

Drug Transport

The uptake and excretion of radiolabeled drugs can be readily monitored in a live cell assay including the activation of multidrug resistance mechanisms.

Metabolite Transport

The uptake and metabolism of ¹⁴C-labeled glucose and other metabolites is readily monitored in cells using Cytostar-T plates.

Morphology

The clear base plate allows microscopic assessment of cell morphology and any changes that might occur during the course of the experimental procedure.

mRNA Quantitation

Incorporation of ³H-labeled ribonucleotides into RNA can be measured in real-time in response to drug treatment.

Receptor Binding

Quantitative analysis of receptor binding by radiolabeled ligand in the context of the live cell can be measured in real-time.

Signal Transduction

Quantitative measure of phosphorylation states enabled by monitoring the transfer of ³³P along a signal transduction pathway or network.

Toxicity

Real-time monitoring of cell viability following exposure to drug candidates can be visualized and quantitated by scintillation counting.



Cytostar-T microplates are part of a PerkinElmer Complete Solution that also includes SPA reagents and assay development services.

We can help you determine the SPA solution that's right for your cell-based application. Please contact us at www.perkinelmer.com/spa.

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For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

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Printed in USA

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