

HUMAN HEALTH

ENVIRONMENTAL HEALTH

UNCOVER SUPERIOR MEASUREMENT AND CLARITY

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16-4

HCA ImagAmp™ Reagent Kits for
High Content Screening and Analysis



SEE WHAT YOU'VE BEEN MISSING

Now you can measure what was previously undetectable in high content screening (HCS) immunofluorescence assays. HCA ImagAmp™ kits from

PerkinElmer leverage our proprietary Tyramide Signal Amplification™ (TSA) technology to deliver unprecedented sensitivity without compromising your image resolution. This unique approach catalyzes covalent deposition of numerous fluorophores proximal to your target of interest. Flexible and efficient, HCA ImagAmp technology can be added to virtually any assay protocol with a simple 10-minute incubation step. With HCA

ImagAmp technology, you can achieve consistent detection of weakly expressed targets and reach your HCS research goals.

- Quantify analytes of interest at previously undetectable levels
- Extend quantitative range and improve reliability
- Reduce exposure time for higher throughput
- Conserve primary antibody while improving assay specificity
- Enhance resolution with robust signal

DETECT IMPORTANT CELLULAR EVENTS EARLIER

Visualize cytotoxic effects at lower levels of agent

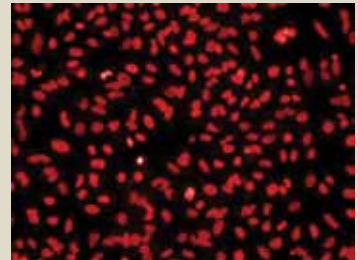
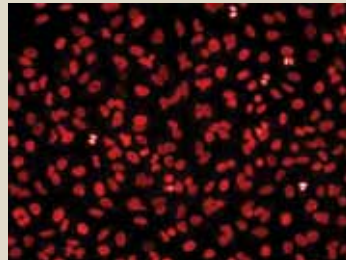
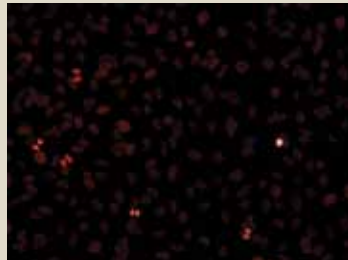
10 ng/mL NCS

30 ng/mL NCS

100 ng/mL NCS

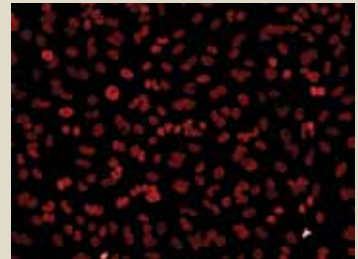
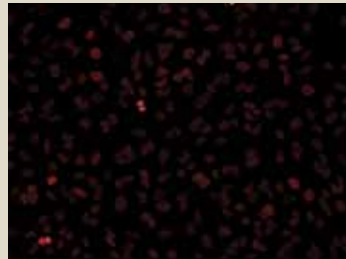
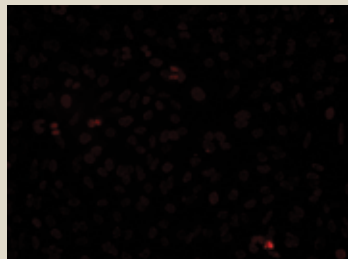
A

HCA ImagAmp 546
anti-phospho-Histone
H2A.X, 1:20,000
50 ms

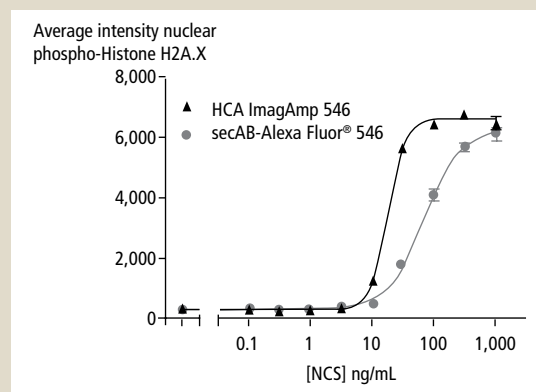


B

Alexa Fluor® 546
anti-phospho-Histone
H2A.X, 1:500
450 ms



DNA damage assay: Titration of NCS. HeLa cells were incubated with NCS at different concentrations for 1 hr and fixed. First Ab: anti-phosphoH2AX Ab. secAb: A) Goat anti-mouse-HRP and HCA ImagAmp 546. B) Goat anti-mouse Alexa Fluor® 546. The nuclear counterstain with Hoechst 33342 was omitted from the images for clarity.

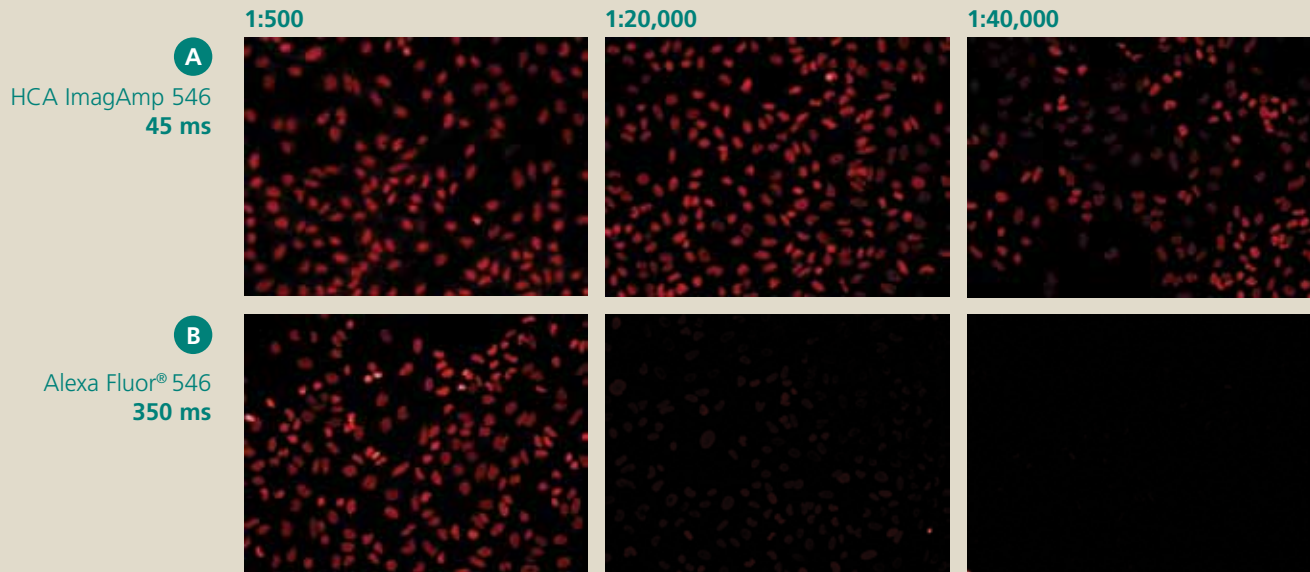


The HCA ImagAmp technology maintains high signal intensity at lower concentrations of NCS. Graph shows the average intensity of nuclear phospho-Histone H2A.X stain in relation to NCS concentration. Antibody dilutions and exposure times are the same as indicated above. Scale on x-axis is logarithmic.

ACHIEVE MORE SENSITIVITY IN LESS TIME

HCA ImagAmp kits dramatically increase sensitivity with less primary Ab and reduced exposure times

Dilution anti-phospho-Histone H2A.X



HeLa cells were treated with 1 μ g/mL Neocarzinostatin (NCS) for 1 hr before fixation and incubated with anti-phosphoH2AX at different concentrations. A) and B) Images show fluorophore channel only; nuclear counterstain was omitted for clarity. A) secAb goat anti-mouse-HRP (1:1,000) and HCA ImagAmp 546, exposure time: 45 ms. B) secAb goat anti-mouse-Alexa Fluor® 546, exposure time: 350 ms.

SUPPORTS A WIDE RANGE OF APPLICATIONS

HCA ImagAmp is a robust and proven technology, and ideal for all your applications.

Developed to support all high content screening instruments, including PerkinElmer's Opera® and Operetta® Imaging Systems, HCA ImagAmp technology is a versatile solution for your lab.

Apoptosis

Cell Cycle

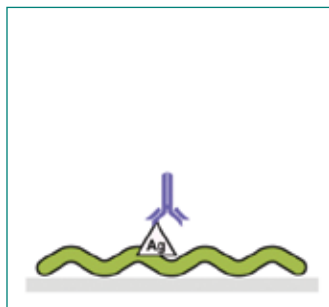
Cell Differentiation

Cytotoxicity

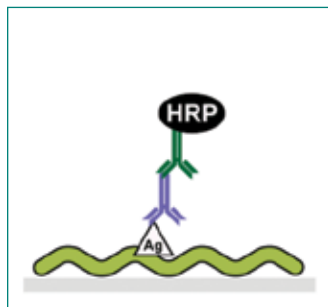
Protein Expression

Signaling Pathway Analysis

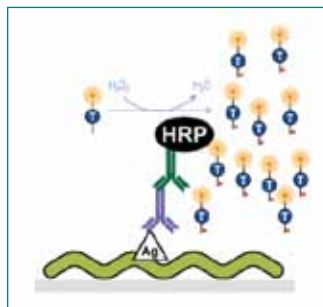
Easily add HCA ImagAmp technology to your assay



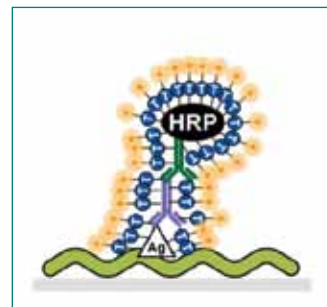
- 1 Incubate with primary antibody.



- 2 Introduce HRP.



- 3 Incubate with HCA ImagAmp reagent (3-10 min). HRP catalyzes formation of HCA ImagAmp free radicals.



- 4 HCA ImagAmp free radicals form covalent bonds with tyrosine residues proximal to HRP. Unbound radicals form dimers that are washed away.

Available Reagent Kits with HCA ImagAmp Technology

HCA ImagAmp 488 Kit (Fluorescein)

HCA ImagAmp 546 Kit (Cyanine 3)

HCA ImagAmp 647 Kit (Cyanine 5)

Results. Smarter. Faster.

With a growing emphasis on translational insight, it is more important than ever to be able to examine the molecular mechanisms of disease and translate your *in vitro* models into *in vivo* results. PerkinElmer offers leading solutions and renowned expertise in assays, imaging and informatics that will help you bring it all together. Whether working in a well, cells or small animals, now you can focus on your science, gain insight sooner and succeed faster.

Learn more at www.perkinelmer.com/HCAImagAmp

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