

The Power of a Single Cell

Ziva™ CPA

Jaden BioScience is pleased to introduce a new BrdU Cell Proliferation Assay that is non-isotopic and ultrasensitive. In head-to-head experiments Ziva was **200x more sensitive than H-thymidine**. Ziva has been used to detect 1-4 proliferating cells in a background of 100,000 non-proliferating cells, a claim others in the field have not approached.

Benefits:

- Because Ziva is truly ultrasensitive, scientists are now enabled to detect very small changes in cell proliferation, previously undetectable, thereby increasing scientific discoveries.
- Because Ziva does not require large numbers of cells to see a biological effect, stem cell or immunology researcher's can stretch the use of their valuable cells - thereby saving money and test animal resources.

Other uses/benefits

- Determination of stimulatory or inhibitory effects of various compounds, or drug candidates on cell proliferation in biomedical research, pharmaceuticals (drug candidate selection), environmental, food and cosmetic industries.
- Analysis of the chemosensitivity of tumor cells to different drugs in medical research.
- Detection and quantification of immunoreactivity of lymphocytes, stimulated by mitogens or antigens, induced cell proliferation caused by various cytokines, growth factors or cell-cell interactions.
- Can detect changes in proliferation (stimulatory or inhibitory) at earlier time-points.
- Lower number of cells required: potential for longitudinal rodent studies and decreasing the number of rodents per time-point.

Time to results in < 1 hour

- Performing assay in < 1 hour: laboratory personnel time reduction = cost savings. Obtaining results faster, can facilitate rapid research and discovery = potential for increasing revenue generation.

Research Use Only

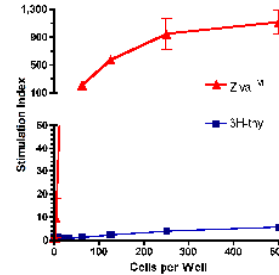


Jaden BioScience, Inc.

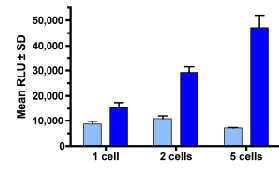
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Ziva™ versus 3H-thymidine



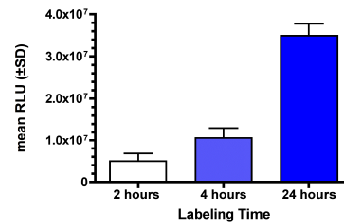
Labeled cells per well among 100,000 unlabeled cells using the Flex method

# of BrdU-labeled cells in 10 ⁵ unlabeled cells:	1 cell	2 cells	5 cells
Positive signal (RLUs)	15,364	29,238	47,092
Negative signal (RLU from 10 ⁵ cells)	8,623	10,824	7,120
Signal to Noise Ratio	1.8	2.7	6.6
Lowest Limit of Detection (# of cells)	1.3	1.2	0.9

Superiority

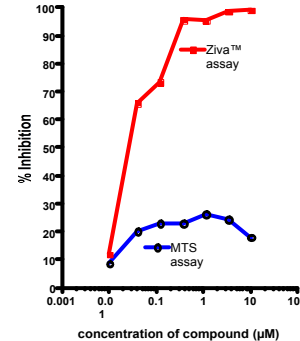
Sensitivity

One Cell Detection in a Background of 10⁵ Splenocytes



	2 hours	4 hours	24 hours
Positive (RLU)	4.94E+06	1.06E+07	3.49E+07
Negative (RLU)	2.62E+04	3.44E+04	4.31E+04
Signal to Noise Ratio (Pos:Neg)	1.89E+02	3.08E+02	8.10E+02

Efficient Labeling from 2 to 24 hours



Comparison with MTS

Flexibility

Inhibition of Human Peripheral Blood T cell Proliferation

ZIVA™ vs MTS assay 2,500 Total Cells

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The Power of a Single Cell

Ziva™ Tox

Jaden BioScience is pleased to introduce a new BrdU-based Cell Cytotoxicity Kit that is non-isotopic and ultrasensitive.

Benefits:

Preliminary studies indicate that Ziva Tox is superior to traditional methods in the following ways:

- Fewer target cells required--as low as 1,000 (versus 20,000 generally used in current assays)
- Fewer effector cells required—significant killing at lower E:T ratios
- Lower background—the health of the target cells are not as crucial an issue as with 51Cr release or similar assays which depend on analytes released from dying cells.
- Higher signals—E:T ratios under 1 have produced significant killing
- Longer incubations possible—to amplify cell-mediated killing, longer incubations without high backgrounds are allowed. From two hours to overnight incubations are possible, depending on your experimental system.

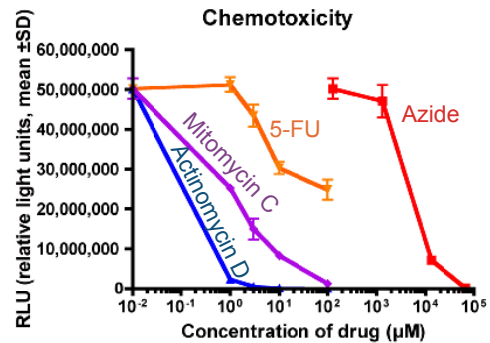
Flexibility in mind

ZivaTox has been specially formulated for the ultrasensitive detection of cytotoxicity. The reagents, based on Jaden's platform technology, allow for maximum flexibility for the experimenter based on the biology of the particular system being studied. Sensitive cytotoxicity data has been obtained using short (4 hours) or long (24 hours) incubation times for cell toxicity to occur without a significant increase in background. Labeling can be performed between 2 and 4 hours without loss of significance.

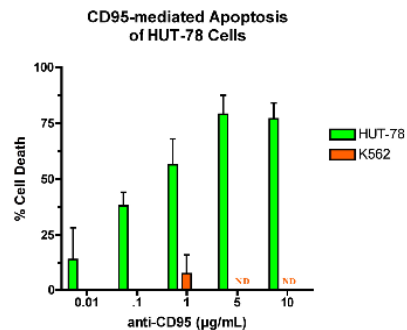
Time to results in < 1 hour

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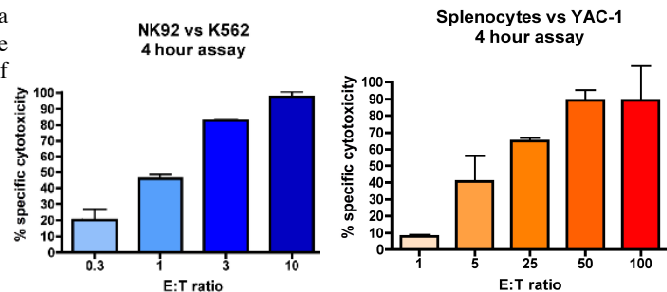
For a detailed description of the data, please visit us at www.jadenbio.com.



Chemotoxic Effects



ADCC/apoptosis



Cell Mediated Cytotoxicity

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