



Support Your Research!!!

EZ-Cytox & EZ-LDH



ISO 9001:2015 GQ-242997
ISO14001:2015 GE-241518
ISO 45001:2018 GO-240735

DoGENBio

EZ-Cytox

Faster and easier than MTT! More accurate than MTS and XTT!
Experience the precision of EZ-Cytox for measuring cell viability, proliferation, and cytotoxicity!

EZ-Cytox, a *WST-based assay, offers an advanced and efficient alternative to MTT, MTS, and XTT assays, with faster results and simpler protocols. It is ideal for modern biological and pharmaceutical research.

*WST : Water Soluble Tetrazolium salt



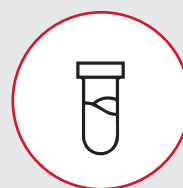
Sensitivity

Provides superior sensitivity, surpassing MTT, MTS, and XTT assays with more accurate measurements, even at low concentrations.



Fast

The experiment can be completed within 30 minutes to 4 hours.



Simple

No additional steps are needed, simply add and read.



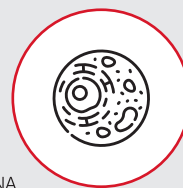
Easy

Provided as a sterilized premix, ready for immediate use.



Safety

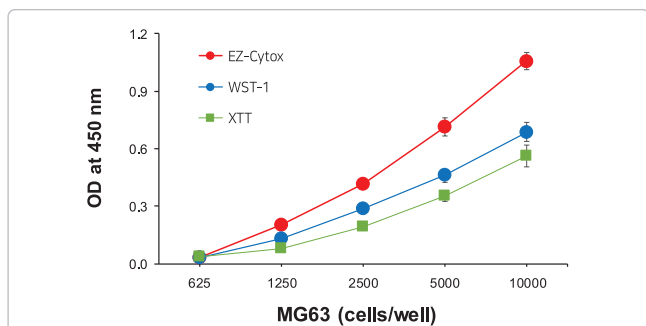
No additional reagents like isotopes or organic solvents are required. The reagent is non-toxic, enabling further experiments such as DNA/RNA extraction, western blot, or LDH assay after the initial test.



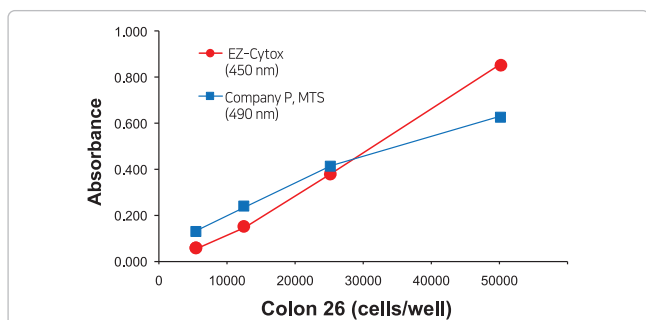
Flexibility

Suitable for both adherent and suspension cells.

■ Sensitivity Comparison (of Water-Soluble Tetrazolium Salts.)



■ Sensitivity Comparison Test with MTS Product



Product	Cat. No.	Volume
EZ-Cytox	EZ-500	5 ml x 1
	EZ-1000	5 ml x 2
	EZ-3000	5 ml x 6
	EZ-5000	25 ml x 2
	EZ-BULK150	25 ml x 4
EZ-Cytox PLUS*	EZ-3000P	5 ml x 6

* This product offers higher sensitivity than EZ-Cytox and is ideal for experiments with slow metabolic activity or when high sensitivity is needed with a small number of cells.

EZ-LDH



The LDH assay is used to distinguish between cell damage and proliferation inhibition. It allows for accurate assessment of cell damage and death.

Faster and more convenient than traditional methods for measuring cell cytotoxicity.

EZ-LDH, a WST-based assay, offers an advanced and highly sensitive method for measuring LDH released from cells damaged or killed by apoptosis or necrosis. This kit provides a simple yet precise solution for assessing cytotoxicity and cytolysis.

Cytotoxicity measurement using WST is an indirect method based on cell viability tests. For more sensitive and accurate results, it is recommended to use LDH enzyme assays that directly measure cell death or damage.



Sensitivity

Provides superior sensitivity, surpassing conventional INT methods with more precise measurements, particularly for detecting LDH enzymes associated with cell damage or death. This enables highly accurate cytotoxicity analysis.



Fast

Offers exceptional speed, completing experiments within an hour through a simple one-step reaction. Supports high-throughput screening for rapid analysis of multiple samples.



Safety

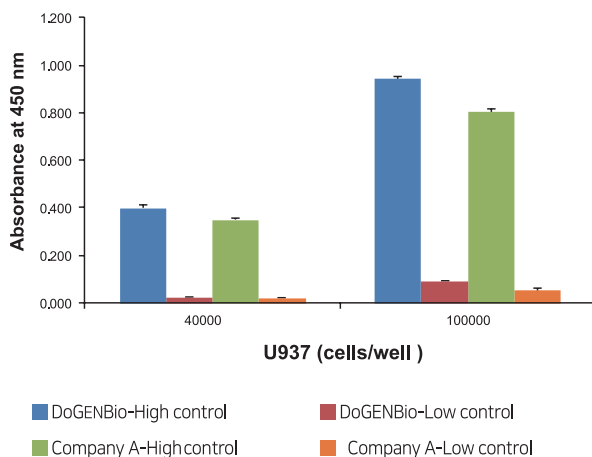
Ensures a safer experimental environment by eliminating the need for harmful reagents such as radioactive isotopes or organic solvents. Additionally, non-destructive sampling allows for further post-experiment analysis, including DNA or RNA extraction and Western blotting.



Flexibility

Offers broad flexibility, suitable for standard cytotoxicity tests as well as diverse assays such as ADCC and NK cell activity tests, making it highly versatile for various research applications.

■ Sensitivity Comparison Test with INT Method Product



* High control : with Lysis Solution for maximum LDH release
Low control : without Lysis Solution



Product	Cat. No.	Volume
EZ-LDH	DG-LDH500	500 assay
	DG-LDH1000	1000 assay

EZ-Cytox VS. EZ-LDH

Distinction	EZ-Cytox	EZ-LDH
Cell Viability	Measures the viability of living cells affected by the sample	x
Cell Proliferation	Measures cell proliferation activity influenced by the sample	x
Cell Cytotoxicity	Possible, but relatively less accurate than the LDH assay	Measures the extent of cell death or damage caused by the sample
Cell Mediated Cytotoxicity	x	Measures the degree (percentage) of target cells killed by immune cells

* To determine whether cell growth is inhibited or the cells are killed by an agent, we recommend using both the EZ-Cytox and EZ-LDH kits.

Q&A

Q1

What are the differences between third-party products using MTT, MTS, or XTT and EZ-Cytox, which uses WST?

Although the basic measurement principle is the same, the water solubility of formazan produced by each tetrazolium salt differs. MTT forms water-insoluble crystalline formazan, requiring the use of solvents like DMSO for dissolution, which is cumbersome. MTS and XTT produce water-soluble formazan, but their solubility and stability are lower compared to WST. In contrast, EZ-Cytox, which uses WST, offers higher sensitivity and a wider measurement range than competitor products. Additionally, our technology improves WST sensitivity, enabling measurements with equal or higher precision than other WST-based products.

Q2

What is the wavelength range that can be used for absorbance measurement after adding EZ-Cytox?

It is recommended to use a wavelength of 450 nm. If a 450 nm filter is not available, measurements can be made within the wavelength range of 420 to 480 nm.

Q3

Can it be used with well plates of sizes other than a 96-well plate?

EZ-Cytox can be used not only with 96-well plates but also with 6, 24, 48, and 384-well plates, as well as various dish sizes. In these cases, EZ-Cytox should be added at 1/10 of the total volume. (For example, if you have 200 µl of cells in media and 100 µl of reactants, the total volume is 300 µl. Therefore, you should add 30 µl of EZ-Cytox to the well, which is 1/10 of the total volume.)

Q4

When observing cells under a microscope, they appear to be mostly dead, yet the results from the EZ-Cytox experiment indicate high viability. Why is that?

In such cases, most of the cells observed as dead are actually damaged cells that still retain residual NADH-dehydrogenase activity, allowing them to react with EZ-Cytox. If your experiment requires counting these damaged cells as dead, you should wash them out and re-measure.

This can also occur if the experimental substance directly reduces EZ-Cytox. In such cases, please refer to note 4 of the protocol and conduct the experiment again after washing.

Q5

Is it possible to use cells that have been tested with EZ-Cytox for other tests?

EZ-Cytox has minimal cytotoxicity and does not significantly affect the cells, so after completing the assay, it is possible to perform other experiments such as DNA or RNA extraction, and western blotting.

Q6

Why is absorbance measured at the reference wavelength?

The reference wavelength (600 nm or 650 nm) is used to account for factors that may affect experimental results, such as well plate curvature and media turbidity, although it is not strictly necessary. Typically, the absorbance at the reference wavelength is around 0.05.