

**Cell Meter™ Colorimetric MTS Cell Proliferation Kit**

 Catalog number: 22766, 22767  
 Unit size: 1000 tests, 5000 tests

Component	Storage	Amount (Cat No. 22766)	Amount (Cat No. 22767)
Component A: MTS Solution	Freeze (< -15 °C), Minimize light exposure	1000 tests	5000 tests

**OVERVIEW**

The Cell Meter™ Colorimetric MTS Cell Proliferation Kit is a quick and reliable method for quantifying viable cells in proliferation and cytotoxicity assays. This technique relies on the reduction of the MTS tetrazolium compound by living cells, which produces a colored formazan product soluble in cell culture media. This reaction is believed to be mediated by NAD(P)H-dependent dehydrogenase enzymes in metabolically active cells. The amount of formazan dye generated by viable cells can be measured by assessing the absorbance at 490-500 nm. The Cell Meter™ Colorimetric MTS Cell Proliferation Kit is useful for evaluating cell proliferation in response to various stimuli such as growth factors, cytokines, mitogens, and nutrients. It is also applicable for analyzing the effects of cytotoxic compounds, including anticancer drugs and other toxic agents and pharmaceutical compounds. A key advantage of this kit is its ease of use, as it can be applied directly to cell culture media, bypassing the intermediate steps required by traditional MTT assays. Furthermore, this high-throughput assay simplifies the process by eliminating the need for washing or solubilization steps and is suitable for use in 96-well microtiter plates.

**AT A GLANCE**
**Protocol Summary**

1. Prepare the cells in a clear-bottom, 96-well plate (100 µL/well).
2. Add 20 µL of the MTS Solution to each well.
3. Incubate at 37°C for 1 - 4 hours.
4. Monitor absorbance at OD = 460 nm.

**KEY PARAMETERS**
**Absorbance microplate reader**

Absorbance	490 nm
Recommended plate	Clear bottom

**CELL PREPARATION**

For guidelines on cell sample preparation, please visit:

<https://www.aatbio.com/resources/guides/cell-sample-preparation.html>

**SAMPLE EXPERIMENTAL PROTOCOL**
**Cell Proliferation and Cytotoxicity Assay**

1. Plate 5,000 to 10,000 cells/well in a tissue culture microplate with a clear bottom.
2. Add the test compounds to the cells and incubate for a desired period of time (such as 24, 48, or 96 hours) in a 37°C, 5% CO<sub>2</sub> incubator. For blank wells (medium without the cells), add the

same amount of test compounds. The suggested total volume is 100 µL for a 96-well plate or 50 µL for a 384-well plate.

**Note:** Each cell line should be evaluated on an individual basis to determine the optimal cell density for proliferation or cytotoxicity induction. For proliferation assays, use fewer cells; for cytotoxicity assays, use more cells to start with.

3. Add 20 µL/well (96-well plate) or 10 µL/well (384-well plate) of the MTS Solution to each well.
4. Incubate the plate at 37°C for 1 - 4 hours, protect from light.
 

**Note:** The incubation time could be from 30 minutes to overnight depending on the individual cell type and cell concentration used. Optimize the incubation time for each experiment.
5. Monitor the absorbance increase with an absorbance plate reader at OD = 490 nm.

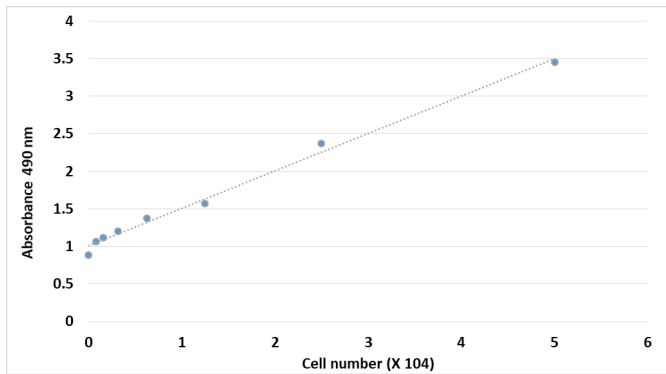
**Cell Counting Assay**

1. Use a clear-bottomed tissue culture microplate to prepare cell culture. The suggested total volume is 100 µL for a 96-well plate or 50 µL for a 384-well plate.
 

**Note:** We used serially diluted HeLa and Jurkat cell suspension in a clear bottom 96-well plate for the assay
2. Add 20 µL/well (96-well plate) or 10 µL/well (384-well plate) of the MTS Solution to each well.
3. Incubate the plate at 37°C for 1 - 4 hours, protect from light.
 

**Note:** The incubation time could be from 30 minutes to overnight depending on the individual cell type and cell concentration used. Optimize the incubation time for each experiment.
4. Monitor the absorbance increase with an absorbance plate reader at OD =490 nm.

**EXAMPLE DATA ANALYSIS AND FIGURES**



**Figure 1.** Cell count measured using the Cell Meter™ Colorimetric MTS Cell Quantification Kit. HeLa cells ranging from 781 to 50,000 cells/well/100  $\mu$ L were added to a clear bottom 96-well plate. After incubation with the MTS solution for 4 hours, the absorbance was measured at 490 nm using a ClarioStar absorbance microplate reader.

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