MTS Cell Proliferation Colorimetric Assay Kit

(Catalog # NBP2-54884; Store at -20°C)

I. Introduction:

Novus's MTS Cell Proliferation Assay Kit is a colorimetric method for sensitive quantification of viable cells in proliferation and cytotoxicity assay. The method is based on the reduction of MTS tetrazolium compound by viable cells to generate a colored formazan product that is soluble in cell culture media. This conversion is thought to be carried out by NAD(P)H-dependent dehydrogenase enzymes in metabolically active cells. The formazan dye produced by viable cells can be quantified by measuring the absorbance at 490-500 nm. The assay can be used for the measurement of cell proliferation in response to growth factors, cytokines, mitogens, and nutrients, etc. It can also be used for the analysis of cytotoxic compounds like anti-cancer drugs and many other toxic agents and pharmaceutical compounds. BioVision's MTS assay is performed by adding the reagent directly into the cell culture media without the intermittent steps, which are required in the routine MTT assay. In addition, this high-throughput assay requires no washing or solubilization step and can be performed in 96-well microtiter plate.

II. Applications:

- Measurement of cell proliferation in response to growth factors, cytokines, mitogens and nutrients
- Analysis of cytotoxic and cytostatic compounds such as anticancer drugs, toxic agents and other pharmaceuticals
- Assessment of physiological mediators that inhibit cell growth

III. Sample Type:

- Adherent and suspension cells

IV. Kit Contents:

Components	500 Assay	2500 Assay	Part number
MTS Reagent (in electron coupling solution)	10 ml	50 ml	NBP2-54884

V. User Supplied Reagents and Equipment:

- 96-well clear plate with flat bottom
- Multi-well spectrophotometer (ELISA reader)

VI. Storage and Handling:

For long-term storage, store kit at -20°C, protected from light. For frequent use, kit can be stored at 4°C for up to 6 weeks, protected from light.

VII. Cell Proliferation Assay protocol:

1. Culture cells (5-100 x 10^3/well) in a 96-well microtiter plate in a final volume of 200 µl/well in the absence or presence of various factors to be tested.

2. Incubate cells for 20-48 hrs.

3. Add 20 µl/well MTS Reagent into each well & incubate for 0.5-4 hrs. at 37°C in standard culture conditions.

Notes:

a) If the cells are cultured in different volume of culture medium, adjust the amount of MTS Reagent accordingly.

b) The appropriate incubation time depends on the individual cell type and cell concentrations used. Therefore, it is recommended to determine the optimal incubation time for a particular experiment.

c) To measure the amount of soluble formazan produced by cellular reduction of MTS, proceed immediately to Step 4. Alternatively, to measure the absorbance later, add 10 µl of 10% SDS to each well to stop the reaction. Store SDS-treated plates protected from light in a humidified chamber at room temperature for up to 18 hrs.

4. Shake the plate briefly on a shaker & measure absorbance of treated and untreated cells using a plate reader at 490 nm.

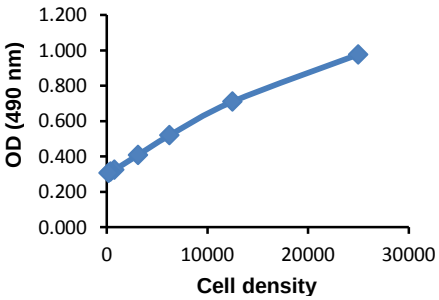

Figure: Effect of cell number on absorbance at 490 nm. Various numbers of Jurkat cells were cultured in a final volume of 200 µl/well by incubating overnight at 37°C. MTS reagent was added and absorbance at 490 nm was recorded using ELISA plate reader. Each point represents a mean of 3 replicates. Assay was performed according to the kit protocol.