

MTT Cel Viability Assay (TBS2003, 1000 Assays)

DESCRIPTION

The MTT assay is a highly versatile and widely utilized method for assessing cell viability. It relies on metabolically active cells to cleave the yellow tetrazolium salt (MTT) into insoluble, purple formazan crystals. Once these crystals are solubilized with a solubilizer, their concentration is quantified by measuring optical density at 570 nm. The intensity of the resulting purple coloration is directly proportional to the number of metabolically active, living cells in the culture. Therefore, it serves as an accurate indicator of cell survival.

The MTT Cell Viability Assay Kit provides a convenient, sensitive, and quantitative method to measure viable cell populations using standard microplate absorbance readers. This robust system is ideal for determining cell growth rates, evaluating cytotoxicity, testing drug actions, and screening novel biologically active compounds. Each component in the kit has been carefully formulated and optimized to ensure maximum sensitivity, assay reproducibility, and compatibility with automated workflows.

KEY FEATURES

- Safe: Non-radioactive assay.
- Sensitive and accurate: As few as 950 cells can be accurately quantified. Multi-well microplate reader.
- Convenient and high-throughput: "Mix-incubate-measure" type assay. No washing or reagent transfer steps are involved.

APPLICATIONS

- **Cell proliferation:** effects of cytokines, growth factors, and nutrients.
- **Cytotoxicity and Apoptosis:** evaluation of toxic compounds, anti-cancer antibodies, toxins, environmental pollutants, etc.
- **Drug discovery:** high-throughput screening for toxic and anticancer drugs.

KIT CONTENTS

Part#	Name	Unit Size
A	MTT Reagent	10 mL
B	MTT Solubilizer	100 mL

STORAGE CONDITION

The kit is shipped on ice and should be stored at -20°C for long-term storage. The shelf life is 12 months after receipt.

ASSAY PROCEDURES

1. **Cell culture:** Cells are cultured in a 96-well plate at 37°C. In general, cells should be seeded at densities between 1000 and 10,000 cells per well to reach the optimal density within 48 to 72 hours.
2. **Cell treatments:** Add test compounds or controls to the wells. Then incubate the cells for the desired period (typically overnight). It is recommended that assays be run in duplicate or triplicate. The final volume of culture medium in each well should be 100 µL.

3. **Add MTT reagent:** Warm the MTT Reagent and to room temperature. Add 10 µL of MTT Reagent to 100 µL of medium in per well. Mix by tapping gently on the side of the tray or shaking briefly on an orbital shaker, and incubate for 4 hours at 37°C. The volume of the reagent should be adjusted depending on the volume of the cell culture.
4. **Add solubilizer:** Add 100 µL of the Solubilizer to each well. Mix gently on an orbital shaker for one hour at room temperature. The volume of the Solubilizer should be adjusted depending on the volume of the cell culture.
5. **Measure OD value:** Measure the OD value at 570 nm for each well on an absorbance plate reader.

DATA ANALYSIS

Determine the average of the blank controls and subtract this amount from all absorbance values. Plot the corrected absorbance values at 570 nm against the concentration of the test compound. The data can be analyzed by non-linear regression analysis using Prism or another data analysis tool.

RELATIVE PRODUCTS

Resazurin Cell Viability (TBS2001)
LDH Cytotoxicity Assay (TBS2002)
MTS Cell Viability Assay (TBS2004)
Catalase Assay (TBS2006)
ATP Colorimetric/ Fluorometric Assay (TBS2010)
ADP Colorimetric/Fluorometric Assay (TBS3020)
XTT Cell Viability Assay (TBS2021)
CCK-8 Cell Viability Assay (TBS2022)
Caspase-3 Colorimetric Assay (TBS2030)
BrdU Cell Proliferation Colorimetric Assay (TBS2086)
Cytochrome c Reductase Activity Assay (TBS2116)
AOPI Viability Assay for Flow Cytometry (TBS2069)

Research Use Only