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DATA SHEET

# MTT Cell Viability Assay Kit

**Catalog Number: 30006 (1000 assays)**

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## Description
MTT Cell Proliferation Assay Kit provides a simple method for the determination of cell number using standard microplate absorbance readers. Determination of cell growth rates is widely used in the testing of drug action, cytotoxic agents and screening other biologically active compounds. Among a variety of non-radioactive cell proliferation assays, the MTT assay developed by Mossman [(1)] is still among one of the most versatile and popular assays.

The MTT assay is based on the cleavage of the yellow tetrazolium salt MTT to purple formazan crystal by metabolic active cells [(2-4)]. The formazan is then solubilized, and the concentration determined by optical density at 570 nm. The result is a sensitive assay with a colorimetric signal proportional to the cell number. Biotium's MTT Cell Proliferation Assay Kit provides ready-to-use reagents for performing 1000 individual assays using standard 96-well microplates.

## Kit Components
10 vials (1mL each) of 1X MTT solution

## Storage and Handling
Upon receipt, the kit should be stored at 4°C and protected from light. Stored properly, the kit components should remain stable for at least 6 months.

## Materials Required But Not Provided
Dimethylsulfoxide (DMSO)

## Experimental Protocol
1. Plate cells into 96-well tissue culture plates. In general, cells should be seeded at densities between 5000 and 10,000 cells per well since they will reach optimal population densities within 48 to 72 hours.

2. Carry out your experiment by adding chemicals or biological agents into appropriate well. The final volume of tissue culture medium in each well should be 0.1mL, and the medium may contain up to 10% Fetal Bovine Serum.

3. Use one vial of MTT solution for each 96-well plate assay.
**Note:** If sediment is present in the solution, heat the solution to 37°C and swirl gently until a clear solution is obtained.

4. Add 10µL MTT solution to each well. Mix by tapping gently on the side of the tray or shake briefly on an orbital shaker.

5. Incubate at 37°C for 4 hours. At high cell densities (>100,000 cells per well) the incubation time can be shortened to 2 hours.

6. Add 200µL DMSO into each well to dissolve the formazan by pipetting up and down several times.

7. Measure the absorbance on an ELISA plate reader with a test wavelength of 570 nm and a reference wavelength of 630 nm to obtain sample signal ($OD_{570}$-$OD_{630}$).

## References
1. *J Immunol Methods* **65**, 55 (1983); 2. *J Neurochem* **69**, 581 (1997); 3. *Arch Biochem Biophys* **303**, 474 (1993); 4. *Cancer Res* **51**, 2515 (1991).

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