For research use only

Quick Cell Proliferation Colorimetric Assay Kit II

(Catalog #K302-500, -2500; Store at –20˚C)

I. Introduction:

The Quick Cell Proliferation Assay Kit II provides by far the easiest and most sensitive means for quantifying cell proliferation and viability. The assay is based on the cleavage of the tetrazolium salt to formazan by cellular mitochondrial dehydrogenase. The amount of the dye generated by activity of dehydrogenase is directly proportional to the number of living cells. The formazan dye produced by viable cells can be quantified by multi-well spectrophotometer (microtiter plate reader) by measuring the absorbance of the dye solution at 440 nm. The assay can be used for 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 anticancer drugs and many other toxic agents and pharmaceutical compounds. The new method is so simple, just add-and-read, requiring no washing, no harvesting, and no solubilization steps. It is faster, stable, and more sensitive than MTT, XTT, MTS based assays. The assay correlates well with the [^{3}H]-thymidine incorporation assay.

II. Kit Contents:

Component	K302-500 500 assays	K302-2500 2500 assays	Part Number
WST Reagent (lyophilized)	1 vial	1 vial	K302-xxx(x)-1
Electrocoupling Solution	5 ml	25 ml	K302-xxx(x)-2
Stop Solution	5 ml	25 ml	K302-xxx(x)-3

III. Reagent Preparation and Storage:

Dissolve the lyophilized WST reagent into 5 ml the Electro Coupling Solution (ECS), aliquot the solution (1 ml is sufficient for one 96-well plate assays) and store at –20˚C. The WST solution is stable for 1 year at –20˚C and up to 6 months at 4˚C. Protect from light. Avoid repeated freeze-thaw. Repeated freeze-thaw may increase background.

IV. Cell Proliferation Assay Procedures:

1. Culture cells (0.1-5x10^4/well) in a 96-well microtiter plate in a final volume of 100 µl/well culture medium in the absence or presence of various amounts of the factors tested. For toxicity assays, use more cells to start with (e.g., 5x10^4 – 5x10^5 cells/well).

   Note: The optimal cell number used for the assay may vary among cell types. For best results, it is recommended to add various numbers of cells in your initial assay to determine the optimal cell number and the developing time to be used.

2. Incubate cells for 24-96 hours.
3. Add 10 µl per well WST reagent to each well. Be careful not to introduce bubbles to the wells.
4. Incubate the cells for 0.5 – 4 hours in standard culture conditions.
5. Shake thoroughly for 1 min on a shake. Measure the absorbance of the treated and untreated samples using a microtiter plate reader at 420-480 nm according to the filters available for the plate reader. The reference wavelength should be ~650nm

Notes:

1. Use the same amount of culture medium and WST reagent in an empty well as a blank position for the microtiter plate reader.
2. The plate can be repeatedly read many times until desired O.D. reached.
3. The reaction can be stopped by adding 10 µl of the Stop Solution into each well, mix well, and the plate can be read within 48 hours. Protect from light and prevent medium evaporation.
4. Phenol Red in culture medium does not significantly interfere with the assay.
5. WST shows very low toxicity and it does not stain the cells. Thus, the same cells can be used for other tests after WST assay.

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- Caspase Assay Kits & Reagents
- Mitochondrial Apoptosis Kits & Reagents
- Nuclear Apoptosis Kits & Reagents
- Apoptosis Inducers and Apoptosis siRNA Vectors

Cell Fractionation System
- Mitochondria/Cytosol Fractionation Kit
- Nuclear/Cytosol Fractionation Kit
- Membrane Protein Extraction Kit
- Cytosol/Particulate Rapid Separation Kit
- Mammalian Cell Extraction Kit
- FractionPREP Fractionation System

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- Quick Cell Proliferation Assay Kit
- Senescence Detection Kit
- High Throughput Apoptosis/Cell Viability Assay Kits
- LDH-Cytotoxicity Assay Kit
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- CETP & PLTP Activity Assay & Drug Discovery Kits
- Total Cholesterol Quantification Kit

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- Cloning Insert Quick Screening Kit
- Mitochondrial & Genomic DNA Isolation Kits
- 5 Minutes DNA Ligation Kit
- 20 Minutes Gel Staining/Destaining Kit

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