ab65473

Quick Cell Proliferation Assay Kit

Instructions for Use

For the rapid, sensitive and accurate measurement of Cell Proliferation in cell culture (adherent and suspension)

This product is for research use only and is not intended for diagnostic use.

PLEASE NOTE: With the acquisition of BioVision by Abcam, we have made some changes to component names and packaging to better align with our global standards as we work towards environmental-friendly and efficient growth. You are receiving the same high-quality products as always, with no changes to specifications or protocols.

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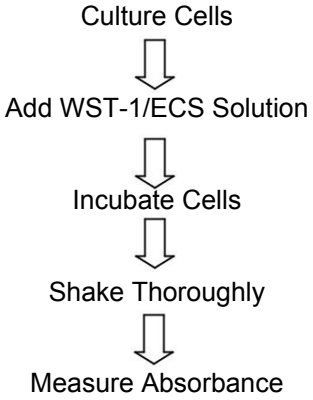
1. Overview

Abcam's Quick Cell Proliferation Assay Kit provides all reagents and detailed instructions for a fast and sensitive quantification of cell proliferation and viability. The assay is based on the cleavage of the tetrazolium salt WST-1 to formazan by cellular mitochondrial dehydrogenases. Expansion in the number of viable cells resulted in an increase in the activity of the mitochondrial dehydrogenases, which leads to the increase in the amount of formazan dye formed. 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 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 anticancer drugs and many other toxic agents and pharmaceutical compounds. The new method is so simple, requiring no washing, no harvesting, and no solubilization steps, and is faster and more sensitive than MTT, XTT, or MTS-based assays. The entire assay can be performed in a microtiter plate.

2. Protocol Summary



3. Components and Storage

A. Kit Components

Item	Quantity (500 assays)	Quantity (2500 assays)
WST Reagent IV/WST-1 Reagent (Lyophilized)	1 vial	1 vial
Electrocoupling Solution/ElectroCoupling Solution (ECS)	5 ml	25 ml

* Store kit at -20°C.

WST Reagent IV/WST-1 REAGENT: Dissolve 1 vial of lyophilized WST Reagent IV/WST-1 reagent into 5 ml/25 ml Electrocoupling Solution/ElectroCoupling Solution (ECS) aliquot the solution (1 ml is sufficient for one 96-well plate assay) and store at -20°C.

The WST Reagent IV/WST-1 / Electrocoupling Solution/ECS Solution is stable for 3 months at -20°C. Protect from light. Avoid repeated freeze-thaw. Repeated freeze-thaw may increase background.

B. Additional Materials Required

- Microcentrifuge
- Pipettes and pipette tips
- Multi-well spectrophotometer (microtiter plate reader)
- 96 well plate
- Orbital shaker

4. Assay Protocol

1. Culture cells (0.1-5x10^4 cells/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-x10^5 cells/well).

2. Incubate cells for 24-96 hours.

3. Add 10 µl WST Reagent IV/WST-1 / Electrocoupling Solution/ECS solution to each well. Be careful not to introduce bubbles to the wells.

Note:

If the cells are cultured in different volumes of culture medium, increase or decrease the amount of WST Reagent IV/WST-1 / Electrocoupling Solution/ECS solution accordingly.

4. Incubate the cells for 0.5-4 hours in standard culture conditions.

Note:

The appropriate incubation time depends on the individual cell type and cell concentration used. Therefore, it is recommended to determine the optimal incubation time for the particular experimental setup used.

5. Shake thoroughly for 1 min.

6. 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:

a) Use the same amount of culture medium and WST Reagent IV/WST-1 / Electrocoupling Solution/ECS solution in an empty well as a blank position for the microtiter plate reader.

b) The assay can be stopped by adding 10 µl of 1% SDS into each well, and shake to mix.

c) Phenol Red in culture medium does not significantly interfere with the reading.

For further technical questions please do not hesitate to contact us by email (technical@abcam.com) or phone (select "*contact us*" on www.abcam.com for the phone number for your region).

UK, EU and ROW
Email: technical@abcam.com
Tel: +44 (0)1223 696000
www.abcam.com

US, Canada and Latin America
Email: us.technical@abcam.com
Tel: 888-77-ABCAM (22226)
www.abcam.com

China and Asia Pacific
Email: hk.technical@abcam.com
www.abcam.cn

Japan
Email: technical@abcam.co.jp
Tel: +81-(0)3-6231-0940
www.abcam.co.jp