WST-8 Cell Quantification Assay

Colorimetric assay for quantification of viable cells

Catalog #100-1544 1000 Tests

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Product Description

WST-8 Cell Quantification Assay involves a simple, ready-to-use solution that can be used for the robust and high-throughput quantification of viable cell numbers. WST-8 Cell Quantification Assay contains a water-soluble tetrazolium salt with low cytotoxicity that can be directly added to cells and measured using a standard microplate reader within 1 - 4 hours. Mechanistically, this assay exploits the ability of WST-8 to be reduced by cellular dehydrogenases into a water-soluble orange formazan dye, mediated by the electron carrier 1-methoxy-5-methylphenazinium methyl sulfate. The amount of orange formazan product generated is directly proportional to the number of viable cells and can be quantified by measuring absorbance readings at 460 nm. This cell quantification assay can be used for protocols requiring longer incubation times ranging from 24 - 48 hours, with detection sensitivity being higher than other tetrazolium salt-based assays, such as MTT, XTT, or MTS.

Stability and Storage:	Store at -20°C. Once thawed, use immediately or aliquot and store at 2 - 8°C for up to 6 months. Alternatively, aliquot and store at -20°C. Product stable until expiry date (EXP) on label. Protect product from prolonged exposure to light.
Product Format:	A slightly yellow solution

Directions for Use

The following protocol is for cells cultured in a 96- (e.g. Catalog #38044) or 384-well plate with clear flat bottom. If using other cultureware, adjust volumes accordingly.

1. Culture 5 - 10 x 10^3 cells (adherent or suspension) in appropriate culture medium in a clear flat-bottom tissue culture-treated microplate. Replicate wells are recommended. Ensure blank wells (culture medium only) are also included on the same plate. If desired, create a standard curve by serial 2-fold dilution of cells in each well. For cell proliferation or cytotoxic assays, treat cells with test compounds. Incubate cells at 37°C and 5% CO_2 for an appropriate length of time.
   - 96-well plate: Suggested total volume of 100 µL per well
   - 384-well plate: Suggested total volume of 50 µL per well

   NOTE: The optimal cell density and incubation time should be determined for different cell types.

   NOTE: Compounds that are known to interfere with cellular dehydrogenase activity may cause discrepancies between the actual and measured cell number. In such cases, ATP Assay, Bioluminescence (Catalog #100-1542) could be used as an alternative method to quantify cell number.
2. Warm WST-8 Cell Quantification Assay solution to room temperature (15 - 25°C). Add an equal volume of WST-8 Cell Quantification Assay solution directly to each well as follows:
   - 96-well plate: 10 µL per well
   - 384-well plate: 5 µL per well

   Ensure bubbles are not introduced into each well, as they may interfere with absorbance readings.
3. Incubate the plate at 37°C for 1 - 4 hours; protect from light.

   NOTE: Incubations could be as short as 30 minutes or as long as overnight; the optimal incubation time should be determined for different cell types.
4. Monitor the absorbance at 460 nm using a microplate reader. Ensure the average absorbance readings of blank wells are subtracted from each sample well to obtain the corrected values.

Related Products

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Warning

This product is hazardous. Please refer to the Safety Data Sheet (SDS)