# MTS Assay Kit (Cell Proliferation) (Colorimetric) ab197010

## Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>MTS Assay Kit (Cell Proliferation) (Colorimetric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Colorimetric</td>
</tr>
<tr>
<td>Sample type</td>
<td>Adherent cells, Suspension cells</td>
</tr>
<tr>
<td>Assay type</td>
<td>Quantitative</td>
</tr>
<tr>
<td>Assay time</td>
<td>4h 00m</td>
</tr>
<tr>
<td>Product overview</td>
<td>MTS Assay Kit ab197010 uses a colorimetric method for the sensitive quantification of viable cells. It is based on a single ready-to-use reagent. The MTS assay can be used to assess cell proliferation, cell viability and cytotoxicity. The MTS assay protocol is based on the reduction of the MTS tetrazolium compound by viable mammalian cells (and cells from other species) to generate a colored formazan dye that is soluble in cell culture media. This conversion is thought to be carried out by NAD(P)H-dependent dehydrogenase enzymes in metabolically active cells. The formazan dye is quantified by measuring the absorbance at 490-500 nm.</td>
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</tbody>
</table>

### MTS assay protocol summary:

- add MTS reagent to cell culture media
- incubate for 0.5 - 4 hours in standard culture conditions
- shake plate briefly and measure absorbance at 490 nm.

The MTS assay is suitable for standard cell culture plates or 96-well and other microtitre well plates.

MTS assays are often used for the measurement of cell proliferation in response to growth factors, cytokines, mitogens, and nutrients, etc. They are also used for the analysis of cytotoxic compounds like anticancer drugs and other toxic agents.

### Notes

Review our [cell health assay guide](#) to learn about kits to perform a [cell viability assay](#), [cytotoxicity assay](#) or [cell proliferation assay](#).

### How other researchers have used MTS Assay Kit ab197010

The MTS assay kit has been used in publications with a variety of cell lines and primary cells,
including:
FB671 fibroblasts\(^1\), HUVEC and 4T1 cells\(^2\), IBRS-2 pig kidney cells\(^3\), mouse mesangial kidney cells\(^4\), human pancreatic ductal adenocarcinoma (PANC-1) and normal dermal fibroblast 3D co-cultures\(^5\), human primary fibroblasts\(^6\), human HuccT1 cholangiocarcinoma cells\(^7\), human glioma cell line\(^8\), human embryonic kidney cell line\(^9\), human 97L liver cancer cell line\(^10\), canine and human PBMCs\(^11\)


**Platform**

Microplate reader

**Properties**

<table>
<thead>
<tr>
<th>Components</th>
<th>500 tests</th>
<th>2500 tests</th>
<th>250 tests</th>
<th>5000 tests</th>
<th>10000 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTS Reagent</td>
<td>1 x 10ml</td>
<td>1 x 50ml</td>
<td>1 x 5ml</td>
<td>1 x 100ml</td>
<td>1 x 200ml</td>
</tr>
</tbody>
</table>

**Storage instructions**

Store at -20°C. Please refer to protocols.

**Relevance**

Cell proliferation is the multiplication or reproduction of cells, as a result of cell growth and cell division, resulting in the expansion of a cell population.

**Images**

Jurkat cells were cultured at different densities overnight at 37°C in a final volume of 200 µL/well. MTS reagent was added and absorbance at OD=490 nm was recorded using ELISA plate reader. Each point represents a mean of 3 replicates. Assay was performed according to the kit protocol.

Absorbance at OD=490 nm is proportional to cell density.
Amirshaghaghi A et al. used MTS assay kit ab197010 in their study of a new preparation of the Chlorin e6 photosensitizer (Ce6). Ce6 is used in photodynamic tumor therapy: photosensitizers localized to tumor cells produce cytotoxic reactive oxygen species on exposure to specific wavelengths of light.

They used the MTS assay kit to measure the viability of 4T1 cells treated with different concentrations of their Ce6 preparation, with and without laser irradiation (665 nm, 5 J/cm²).

Leipnitz G et al. used MTS assay kit ab197010 in their study of mitochondrial complex I deficiency.

They used the MTS assay to examine the reduction in the cell viability of ND6 deficient and ACAD9 deficient fibroblasts, compared to wild type, when cultured in the absence and presence of glucose.

Cabrera et al. used MTS assay kit ab197010 as part of studying ANDRO (Andrographolide), an anti-inflammatory compound with potential for use in the treatment of nonalcoholic steatohepatitis.

They used the MTS assay to demonstrate that ANDRO did not affect cell viability at the concentrations used in their study.

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