# PRODUCT DATA SHEET

## Cell Counting Kit-8

**ALX-850-039**

Simple, fast and accurate assay to measure cell proliferation and cytotoxicity

### Product Number/Sizes

- One-step, ready-to-use solution with no radioisotopes
- High sensitivity that correlates with the $[^3]H$-thymidine incorporation assay
- High-throughput screening without a solubilization step
- More sensitive and stable than MTT, MTS or WST-1

The Cell Counting Kit-8 is a colorimetric assay kit used to measure cell proliferation and cytotoxicity.

It is a ready-to-use solution that does not require radioisotopes and correlates with the $[^3]H$-thymidine incorporation assay. It can be added directly to the cell media for fast, high-throughput screening without a solubilization process obtaining highly reproducible and accurate results. CCK-8 has shown to achieve higher sensitivity and stability than MTT, MTS or WST-1.

### Product Details

<table>
<thead>
<tr>
<th>ALTERNATIVE NAME:</th>
<th>CCKi-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICATIONS:</td>
<td>Colorimetric detection</td>
</tr>
<tr>
<td>QUANTITY:</td>
<td>100 tests: 1 mL</td>
</tr>
<tr>
<td></td>
<td>500 tests: 5 mL</td>
</tr>
<tr>
<td></td>
<td>2500 tests: 5 x 5 mL</td>
</tr>
<tr>
<td>HANDLING:</td>
<td>Protect from light. Avoid freeze/thaw cycles.</td>
</tr>
<tr>
<td>SHIPPING:</td>
<td>Blue Ice</td>
</tr>
<tr>
<td>LONG TERM STORAGE:</td>
<td>-20°C</td>
</tr>
<tr>
<td>CONTENTS:</td>
<td>WST-8 solution, 1-methoxy-PMS</td>
</tr>
</tbody>
</table>

### TECHNICAL INFO/PRODUCT NOTES:

**Principle:** Employs the tetrazolium salt WST-8 (2-(2-methoxy-4-nitrophenyl))-3-((4-nitrophenyl)-5-(2,4-disulfophenyl)-2H-tetrazolium, monosodium salt), that produces a highly water soluble formazan dye upon biochemical reduction in the presence of an electron carrier, 1-methoxy-PMS. The amount of the yellow colored formazan dye generated by dehydrogenases in cells is directly proportional to the number of viable cells in a culture medium.

### REGULATORY STATUS:

RUO - Research Use Only
## Simple, Fast, and Accurate Method for Measuring Cell Proliferation

<table>
<thead>
<tr>
<th>Reagent</th>
<th>MTT</th>
<th>MTS WST-1</th>
<th>CCK-8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation</strong></td>
<td>Thaw Reagent</td>
<td>Thaw Reagent</td>
<td>Thaw Reagent</td>
</tr>
<tr>
<td></td>
<td>Dissolve MTT</td>
<td>Dissolve MTS/WST-1</td>
<td></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
<td>Add Reagent</td>
<td>Add Reagent</td>
<td>Add Reagent</td>
</tr>
<tr>
<td></td>
<td>Measure Abs.</td>
<td>Measure Abs.</td>
<td>Measure Abs.</td>
</tr>
<tr>
<td><strong>Handling Time</strong></td>
<td>40 minutes</td>
<td>30 minutes</td>
<td>15 minutes</td>
</tr>
</tbody>
</table>

Cell Counting kit-8 performance
CTLL-2 cells were incubated with various concentrations of IL-2 for 72 hours. CCK-8 solution was added to each well and the absorbance at 450nm was measured. IL-2 exposure resulted in an increase absorbance which correlates to an increase in cell proliferation.
CTLL-2 cells were incubated with various concentrations of IL-2 for 72 hours. CCK-8 solution was added to each well and the absorbance at 450nm was measured. IL-2 exposure resulted in an increase absorbance which correlates to an increase in cell proliferation. CCK-8 shows greatest sensitivity.
CCK-8 sensitivity for HeLa and HL60 cells are more sensitive than MTT.

Product Literature References
Cytochalasin B Treatment and Osmotic Pressure Enhance the Production of Extracellular Vesicles (EVs) with Improved Drug Loading Capacity A. Nair, et al. Nanomaterials 12 3 (2022)
Human constitutive androstane receptor represses liver cancer development and hepatoma cell proliferation by inhibiting erythropoietin signaling Z. Li, et al. J. Biol. Chem. 298 101885 (2022)
Improvement of osseointegration of Ti-6Al-4V ELI alloy orthodontic mini-screws through anodization, cyclic pre-calciﬁcation, and heat treatments C. Im, et al. Prog. Orthog. 23 11 (2022)
The Encapsulation of Citicoline within Solid Lipid Nanoparticles Enhances Its Capability to Counteract the 6-Hydroxydopamine-Induced Cytotoxicity in Human Neuroblastoma SH-SY5Y Cells A. Margari, et al. Pharmacuetics 14 1827 (2022)
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A highly water-soluble disulfonated tetrazoilium salt as a chromogenic indicator for NADH as well as cell viability M. Ishiyama, et al. Talanta 44 1299 (1997)


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