Product datasheet

LDH-Cytotoxicity Assay Kit II (500 assays) ab65393

Overview

Product name: LDH-Cytotoxicity Assay Kit II (500 assays)
Sample type: Adherent cells, Suspension cells
Assay type: Quantitative
Assay time: 1h 00m

Product overview

LDH-Cytotoxicity Assay Kit II (ab65393) is based on using WST reagent for a fast and more sensitive detection of LDH released from damaged cells. The assay utilizing an enzymatic coupling reaction: LDH oxidizes lactate to generate NADH, which then reacts with WST to generate yellow color. The intensity of the generated color correlates directly with the cell number lysed. Since WST is brighter than other viability reagent, less amount of culture medium is required for the assay, and thus the background from serum and culture medium is significantly reduced. Cells can be cultured in regular 10% serum containing medium, no reducing serum or special medium is required for the assay. In addition, since the WST is very stable, the reaction can be read multiple times and can be stopped at any time point during the reaction. LDH activity can be easily quantified by spectrophotometer or plate reader at OD450nm. The kit provides all necessary reagents including LDH positive control.

Visit our FAQs page for tips and troubleshooting.

Review our cell health assays guide to learn more about our other cell viability, cytotoxicity and cell proliferation assay kits.

Notes

Cell death or cytotoxicity is classically evaluated by the quantification of plasma membrane damage. Lactate dehydrogenase (LDH) is a stable enzyme, present in all cell types, and rapidly released into the cell culture medium upon damage of the plasma membrane. LDH, therefore, is the most widely used marker in cytotoxicity study.

If you would like to use a fluorometric reading, please refer to LDH-Cytotoxicity Assay Kit (Fluorometric) (ab197004).

Properties

Storage instructions: Store at -20°C. Please refer to protocols.
Relevance

Lactate dehydrogenase (LDH) is an oxidoreductase which catalyses the interconversion of pyruvate and lactate with concomitant interconversion of NADH and NAD+. As it can also catalyze the oxidation of hydroxybutyrate, it is occasionally called Hydroxybutyrate Dehydrogenase (HBD). There are 5 different isoenzymes of LDH, LDH1 to LDH5, each composed of 4 subunits which may be of 2 different types - M and H subunits. These subunits are encoded by two different genes: The M subunit is encoded by gene LDHA whilst the H subunit is encoded by LDHB. Usually LDH2 is the predominant form in the serum. An LDH1 level higher than the LDH2 level suggests myocardial infarction (damage to heart tissues releases heart LDH, which is rich in LDH1, into the bloodstream).

Cellular localization

Cytoplasmic

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Identifier</th>
<th>500 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Lysis Solution</td>
<td>Clear</td>
<td>1 x 5ml</td>
</tr>
<tr>
<td>LDH (lyophilized)</td>
<td>Red</td>
<td>1 x 1µl</td>
</tr>
<tr>
<td>LDH Assay Buffer</td>
<td>NM</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>Stop Solution</td>
<td></td>
<td>1 x 5ml</td>
</tr>
<tr>
<td>WST Substrate Mix</td>
<td>Amber</td>
<td>1 vial</td>
</tr>
</tbody>
</table>

Images

Bafilomycin A1 (BafA1) toxicity was assessed in Human hepatic (Huh7.5) cells after 24 hours at different concentrations (12.5nm, 25nm, 50nm and 100nm) were administered to cells using LDH cytotoxicity assay kit (ab65393). Cytotoxicity was measured by subtracting LDH content in remaining viable cells from total LDH in untreated controls.
Comparison of WST-1 and INT based assays. 3T3 cells were cultured in a 96-well plate in 100 µl of culture medium. LDH assays were performed using 10 µl of culture medium using WST-1 (Brown bar) and INT (Green bar) methods. The WST-1 based assay is more stable and sensitive than the INT based method.

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"