

# LDH Assay Kit (Cytotoxicity) ab65393

[126 References](#) [3 Images](#)

### Overview

<b>Product name</b>	LDH Assay Kit (Cytotoxicity)
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Cell culture media
<b>Assay type</b>	Enzyme activity (quantitative)
<b>Assay time</b>	1h 00m
<b>Product overview</b>	LDH Assay Kit (Cytotoxicity) ab65393 uses WST for the fast and sensitive detection of LDH released from damaged cells.

The LDH assay, also known as LDH release assay, is a cell death / cytotoxicity assay used to assess the level of plasma membrane damage in a cell population. Lactate dehydrogenase (LDH) is a stable enzyme, present in all cell types, which is rapidly released into the cell culture medium upon damage of the plasma membrane. LDH is the most widely used marker used to run a cytotoxicity assay.

The LDH assay protocol is based on an enzymatic coupling reaction: LDH released from the cell oxidizes lactate to generate NADH, which then reacts with WST to generate a yellow color. The intensity of the generated color correlates directly with the number of lysed cells.

Only 10µl 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 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.

LDH assay protocol summary:

- transfer 10µl culture medium into new plate
- add LDH reaction mix and incubate for 30 min at room temp
- analyze with microplate reader

**Notes** This product is manufactured by BioVision, an Abcam company and was previously called K313

LDH-Cytotoxicity Colorimetric Assay Kit II. K313-500 is the same size as the 500 test size of ab65393.

#### Alternative LDH assays

If you would like to use a fluorometric assay, please refer to [LDH-Cytotoxicity Assay Kit \(Fluorometric\) \(ab197004\)](#).

This kit is more sensitive than the [colorimetric LDH Cytotoxicity Assay Kit ab65391](#).

To measure LDH activity in sample types such as serum, plasma, and cell lysates, we recommend [LDH assay kit ab102526](#).

#### Related products and guides to cytotoxicity / cell viability / proliferation assays

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

#### Platform

Microplate reader

#### Properties

#### Storage instructions

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

Components	500 tests	10000 tests
Lysis Buffer II	1 x 5ml	20 x 5ml
LDH Positive Control	1 vial	20 vials
LDH Assay Buffer	1 x 50ml	20 x 50ml
Stop Solution IV	1 x 5ml	20 x 5ml
Substrate Mix	1 vial	20 vials

#### Pathway

Fermentation; pyruvate fermentation to lactate; (S)-lactate from pyruvate: step 1/1.

#### Involvement in disease

Defects in LDHA are the cause of glycogen storage disease type 11 (GSD11) [MIM:612933]. A metabolic disorder that results in exertional myoglobinuria, pain, cramps and easy fatigue.

#### Sequence similarities

Belongs to the LDH/MDH superfamily. LDH family.

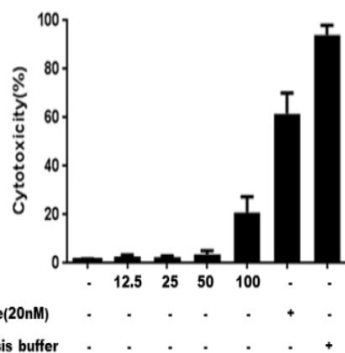
#### Post-translational modifications

ISGylated.

#### Cellular localization

Cytoplasm.

#### Images

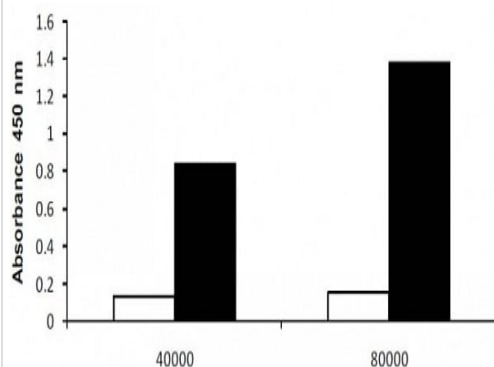


Bukong TN et al., PLoS Pathog 10:e1004424 (2014).

#### LDH Cytotoxicity Assay using ab65393

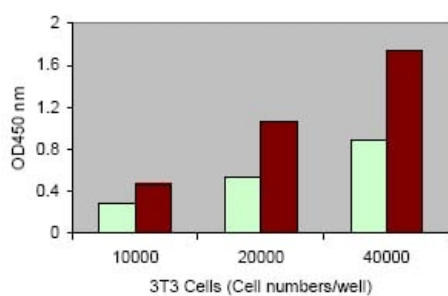
Image from Bukong TN et al., PLoS Pathog 10(10), Fig S6. Doi: 10.1371/journal.ppat.1004424. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

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.



#### LDH Cytotoxicity Assay using ab65393

Jurkat T cells were cultured in 96-well plate in 100 µl of culture medium. LDH Assay was performed using 10µl of culture medium using the WST probe. Low control (white bar); High control (black bar).



#### LDH Cytotoxicity Assay using ab65393

Comparison of WST-1 and INT based LDH assays. 3T3 cells were cultured in a 96-well plate in 100 µl of culture medium. The LDH assay was performed using 10 µl of culture medium using WST-1 (Brown bar) and INT (Green bar) methods. The WST-1 based LDH assay is more stable and sensitive than the INT based method.

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