

# Measurement of the extracellular release of lactate dehydrogenase in cultured primary rat hepatocytes

**Commonly used acronym:** LDH assay Created on: 05-03-2019 - Last modified on: 14-08-2025

#### Organisation

Name of the organisation Vrije Universiteit Brussel (VUB) Department Pharmaceutical and Pharmacological Sciences Specific Research Group or Service In Vitro Toxicology and Dermato-Cosmetology Country Belgium Geographical Area Brussels Region

## SCOPE OF THE METHOD

The Method relates to	Human health
The Method is situated in	Basic Research
Type of method	In vitro - Ex vivo
Species from which cells/tissues/organs are derived	Rat
Type of cells/tissues/organs	Primary rat hepatocytes

## DESCRIPTION

#### Method keywords

Hepatotoxicity Hepatocytes cytotoxicity LDH

#### Scientific area keywords

Toxicology Hepatotoxicity Primary hepatocytes cytotoxicity

#### Method description

This method assesses general cytotoxicity. Upon disruption of the cell membrane, lactate dehydrogenase (LDH) is released. LDH catalyzes the interconversion of pyruvate and lactate with concomitant interconversion of reduced (NADH) and oxidized (NAD+) nicotinamide adenine dinucleotide. The principle of the assay described in the current

standard operating procedure is based on this reaction. In particular, the consumption of NADH is spectrophotometrically assessed and serves as a measure that is proportional to the LDH activity.

#### Lab equipment

Spectrophotometer

#### Method status

History of use

# **PROS, CONS & FUTURE POTENTIAL**

#### Advantages

Easy-to-apply method

## Challenges

Cell membrane damage is a rather late and rough marker of cytotoxicity that mainly indicates necrosis and that may yield false negative results

# REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

## References

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