

# LipidTOX assay in primary rat hepatocytes

*Commonly used acronym: LipidTOX*

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## SCOPE OF THE METHOD

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research, Translational - Applied Research
<b>Type of method</b>	In vitro - Ex vivo
<b>This method makes use of</b>	Animal derived cells / tissues / organs
<b>Species from which cells/tissues/organs are derived</b>	Rat
<b>Type of cells/tissues/organs</b>	Primary rat hepatocytes

## DESCRIPTION

### Method keywords

Steatosis

Phospholipidosis

Hepatocytes

neutral lipids

phospholipids

Hepatotoxicity

### Scientific area keywords

Hepatotoxicity

cytotoxicity

Steatosis

Phospholipidosis

### **Method description**

The method detects two facets of drug-induced cytotoxicity i.e. the intracellular accumulation of phospholipids and of neutral lipids, i.e. phospholipidosis and steatosis respectively. The assay makes use of a kit containing an aqueous, red-fluorescent formulation of labelled phospholipids (LipidTOX<sup>®</sup> Red phospholipid stain, excitation/emission ~595/615 nm) which is up taken by the cells upon incubation with a phospholipidosis-inducing compound. The second component of the kit is a selective green-fluorescent stain for neutral lipids (LipidTOX<sup>®</sup> Green neutral lipid stain, excitation/emission ~495/505 nm), which can be used sequentially on fixed cells for the analysis of steatosis or can be used independently for single-parameter analysis (Nioi et al. 2007). Additionally, use of VECTASHIELD<sup>®</sup> Mounting Medium containing 4',6-diamidino-2-phenylindole (DAPI) which binds directly to DNA and produces upon excitation a blue fluorescence, enables intracellular localisation of the lipids.

### **Lab equipment**

Fluorescence microscope

### **Method status**

History of use

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

### **References**

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Seglen, P.O. (1976) "Preparation of isolated rat liver cells." *Methods in Cell Biology* 13:29-83

## **Associated documents**

## **PARTNERS AND COLLABORATIONS**

### **Organisation**

**Name of the organisation** Vrije Universiteit Brussel

**Department** Pharmaceutical and Pharmacological Sciences (FARM)

**Specific Research Group or Service** In Vitro Toxicology and Dermato-cosmetology

**Country** Belgium

**Geographical Area** Brussels Region

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