LipidTOX assay in primary rat hepatocytes

Commonly used acronym: *LipidTOX*

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, Translational - Applied 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

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™ 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™ 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® 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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