

# Glycogen storage assay

Created on: 20-03-2019 - Last modified on: 16-12-2022

## Contact person

Joery De Kock

## 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

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Species from which cells/tissues/organs are derived</b>	rat, mice, humans
<b>Type of cells/tissues/organs</b>	parenchymal liver cells, stem cell-derived hepatocyte-like cells

## DESCRIPTION

### Method keywords

glycogen

liver

### Scientific area keywords

liver research

liver disease

inborn error of metabolism

### Method description

Cultivated liver cells are fixed with 4% (w/v) paraformaldehyde (PFA) for 10 minutes at room temperature and subsequently incubated for 15 minutes with 100 mM glycine solution, used to saturate reactive groups generated after PFA fixation. These cells are subsequently incubated for 10 minutes with 1% (w/v) Periodic Acid Reagent and 15 minutes of Schiff's Reagent to stain glycogen. Finally, the nuclei are counterstained with haematoxylin solution.

### Lab equipment

Fume hood.

### Method status

History of use

Internally validated

Published in peer reviewed journal

## PROS, CONS & FUTURE POTENTIAL

### Advantages

Easy assay to investigate the capacity of hepatocyte-like cells to store glycogen.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

### References

De Kock J, Snykers S, Branson S, Jagtap S, Gaspar JA, Sachinidis A, Vanhaecke T, Rogiers V. (2012) A liver-derived rat epithelial cell line from biliary origin acquires hepatic functions upon sequential exposure to hepatogenic growth factors and cytokines. *Curr Med Chem* 19:4523-33

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