Glycogen storage assay

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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, mice, humans
Type of cells/tissues/organs	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 glycin 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 Ch):4523-33