

# Isolation and cultivation of rat liver epithelial cells

Commonly used acronym: rLEC

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#### **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

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	Rattus norvegicus
Type of cells/tissues/organs	rat liver epithelial cells

# **DESCRIPTION**

#### Method keywords

liver epithelial cells isolation

#### Scientific area keywords

liver research liver cells

# **Method description**

Rat liver epithelial cells (rLEC) can be isolated from 8-day old male Sprague-Dawley rats. Briefly, small fragments of neonatal rat livers are incubated for 15 minutes with 4-(2-hydroxyethyl)-1-piperazine-ethanesulfonic acid (HEPES) buffered trypsin solution [0.25% (v/v)] and washed twice with calcium- and magnesium-free phosphate-buffered saline (PBS) before plating. Elimination of contaminating ?broblasts is accomplished by taking

advantage of their faster attachment to plastic culture dishes (plate-and-wait method). Growth medium consisted of Williams' E medium without glutamine, 10 % (v/v) fetal bovine serum (FBS), 0.68 mM L-glutamine, 50  $\mu$ g/mL streptomycin sulphate, 7.33 IU/mL benzyl penicillin, 50  $\mu$ g/mL kanamycin monosulphate and 10  $\mu$ g/mL sodium ampicillin. Cell cultures are incubated at 37 °C in a 5 % CO2 and 95 % air humidified atmosphere. Growth media is changed completely every 2 days.

# Lab equipment

Biosafety cabinet level 1; Cell incubator; Centrifuge.

#### Method status

History of use Internally validated Published in peer reviewed journal

# PROS, CONS & FUTURE POTENTIAL

#### **Advantages**

Robust isolation and cultivation method for rat liver epithelial cells.

# 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(26):4523-33

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