Isolation and cultivation of rat liver epithelial cells

**Commonly used acronym:** rLEC

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### SCOPE OF THE METHOD

<table>
<thead>
<tr>
<th>The Method relates to</th>
<th>Human health</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Method is situated in</td>
<td>Basic Research</td>
</tr>
<tr>
<td>Type of method</td>
<td>In vitro - Ex vivo</td>
</tr>
<tr>
<td>This method makes use of</td>
<td>Animal derived cells / tissues / organs</td>
</tr>
<tr>
<td>Species from which cells/tissues/organs are derived</td>
<td>Rattus norvegicus</td>
</tr>
<tr>
<td>Type of cells/tissues/organs</td>
<td>rat liver epithelial cells</td>
</tr>
</tbody>
</table>

### 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 fibroblasts 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 µg/mL streptomycin sulphate, 7.33 IU/mL benzyl penicillin, 50 µg/mL kanamycin monosulphate and 10 µg/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

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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