The HepG2 cell line: regularly used human liver-based in vitro model


Contact person
Anja Heymans

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

<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>Specify the type of cells/tissues/organs</td>
<td>derived from liver tissue of a male with a well-differentiated hepatocellular carcinoma</td>
</tr>
</tbody>
</table>

DESCRIPTION

Method keywords

cell culture
in vitro tool
variety of fields
unlimited
liver-based

**Scientific area keywords**
Liver cell biology
protein expression

**Method description**
HepG2 is a human hepatoma derived cell line, which are epithelial in morphology. It was established from liver tissue of a 15-year-old Caucasian male with a well differentiated hepatocellular carcinoma. The HepG2 cell line is one of the most used human liver-based *in vitro* models. The cells secrete a variety of major plasma proteins (e.g. albumin), but show low levels of biotransformation enzymes. HepG2 cells grow mainly in islands after which they form a monolayer. They have been widely used in a variety of fields such as the study of hepatocyte function and specific protein expression.

**Lab equipment**
Laminar flow hood;
Phase contrast microscope;
Incubator;
Water bath (automatic);
Micropipettes;
Centrifuge.

**Method status**
History of use

**PROS, CONS & FUTURE POTENTIAL**

**Advantages**
High stability;
Unlimited life span