HuH-7 (JCRB0403)

Widely used in various research fields such as
- Cell culture-infection systems utilizing HuH-7 cells and JFH1 (HCV strain genotype 2a) is a robust cellular system for HCV (hepatitis C virus) research
- Used in Xenograft models for cancer research

General information

- Established in 1982, Age 57, Male
- Well differentiated human hepatocellular carcinoma
- Produces albumin, alpha-fetoprotein, alpha-antitrypsin, ceruloplasmin, fibrinogen, fibronectin, haptoglobin, and transferrin etc.

<table>
<thead>
<tr>
<th>Cell Name</th>
<th>Originator</th>
<th>Year</th>
<th>PubMed citation number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hep G2</td>
<td>Aden</td>
<td>1979</td>
<td>23,400</td>
</tr>
<tr>
<td>HuH-7</td>
<td>Nakabayashi</td>
<td>1982</td>
<td>4,780</td>
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<tr>
<td>Hep3B</td>
<td>Aden</td>
<td>1979</td>
<td>2,578</td>
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<tr>
<td>HLE and HLF</td>
<td>Doi</td>
<td>1975</td>
<td>1,655</td>
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<tr>
<td>PLC/PRF/5</td>
<td>Alexander</td>
<td>1976</td>
<td>776</td>
</tr>
</tbody>
</table>

Reference

Pubmed id: 29774518  
HuH-7 reference genome profile: complex karyotype composed of massive loss of heterozygosity.  
Kasai F,Hirayama N,Ozawa M,Satoh M,Kohara A  
Hum Cell. 2018 Jul;31(3):261-267

Pubmed id: 12518066  
Clearance of replicating hepatitis C virus replicon RNAs in cell culture by small interfering RNAs.  
Randall G,Grakoui A,Rice CM  
Proc Natl Acad Sci U S A. 2003 Jan 7;100(1):235-40

Pubmed id: 12438626  
Highly permissive cell lines for subgenomic and genomic hepatitis C virus RNA replication.  
Blight KJ,McKeating JA,Rice CM  

Pubmed id: 10390360  
Replication of subgenomic hepatitis C virus RNAs in a hepatoma cell line.  
Lohmann V,Körner F,Koch J,Herian U,Theilmann L,Bartenschlager R  
Science. 1999 Jul 2;285(5424):110-3

Pubmed id: 10576351  
Establishment and characteristics of human hepatocellular carcinoma cells with metastasis to lymph nodes.  
Hepatogastroenterology. 1999 Sep-Oct;46(29):2812-7

Pubmed id: 2415243  
Hormonal control of alpha-fetoprotein secretion in human hepatoma cell lines proliferating in chemically defined medium.  
Nakabayashi H,Taketa K,Yamane T,Oda M,Sato J  
Cancer Res. 1985 Dec;45(12 Pt 1):6379-83

Pubmed id: 6203805  
Phenotypical stability of a human hepatoma cell line, HuH-7, in long-term culture with chemically defined medium.  
Nakabayashi H,Taketa K,Yamane T,Miyazaki M,Miyano K,Sato J  
Gan. 1984 Feb;75(2):151-8

Pubmed id: 6286115  
Growth of human hepatoma cells lines with differentiated functions in chemically defined medium.  
Nakabayashi H,Taketa K,Miyano K,Yamane T,Sato J  
Cancer Res. 1982 Sep;42(9):3858-63
**HuH Cell Lines** (Other than HuH-7)

- **huH-1** (JCRB0199) Age 53, Male  
  Hepatoma, HBs-antigen carrier, Does not produce infective particles

- **HUH-6 Clone5** (JCRB0401) Infant, Male  
  Differentiated hepatoblastoma, Produces albumin, alpha-fetoprotein etc.

- **HuH28** (JCRB0426)  
  Bile duct carcinoma

**HLE, HLF** (Established from the same donor)

- **HLE** (JCRB0404) Age 68, Male  
  Hepatoma, non-differentiated, Cloned from epithelial-like cells

- **HLF** (JCRB0405) Age 68, Male  
  Hepatoma, non-differentiated, Cloned from fibroblast-like cells

**JHH Cell Lines** (Hepatocellular carcinoma)

- **JHH-2** (JCRB1028) Age 57, Male  
  Hepatocellular carcinoma (Ed-II)

- **JHH-4** (JCRB0435) Age 51, Male  
  Hepatocellular carcinoma (Ed-III), Produces high albumin and alpha-fetoprotein

- **JHH-5** (JCRB1029) Age 50, Male  
  Hepatocellular carcinoma, Produces albumin and alpha-fetoprotein

- **JHH-6** (JCRB1030) Age 57, Female  
  Hepatocellular carcinoma

- **JHH-7** (JCRB1031) Age 53, Male  
  Hepatocellular carcinoma (Ed-III), Produces albumin and alpha-fetoprotein

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>JCRB No.</th>
<th>Albumin (ng/mL/48hr)</th>
<th>AFP (ng/mL/48hr)</th>
<th>HBV-DNA Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>JHH-2</td>
<td>JCRB1028</td>
<td>110</td>
<td>nd</td>
<td>–</td>
</tr>
<tr>
<td>JHH-4</td>
<td>JCRB0435</td>
<td>23,000</td>
<td>33</td>
<td>–</td>
</tr>
<tr>
<td>JHH-5</td>
<td>JCRB1029</td>
<td>600</td>
<td>110</td>
<td>–</td>
</tr>
<tr>
<td>JHH-6</td>
<td>JCRB1030</td>
<td>nd</td>
<td>nd</td>
<td>–</td>
</tr>
<tr>
<td>JHH-7</td>
<td>JCRB1031</td>
<td>560</td>
<td>360</td>
<td>+</td>
</tr>
</tbody>
</table>

Adapted from Hepato-gastroenterol.37(1990)457-460
Human Ovarian cancer cell line series

- **OVISE** (JCRB1043) Age 40, Female  
  Clear cell adenocarcinoma, Transplantable to mice

- **OVKATE** (JCRB1044) Age 40, Female  
  Serous papillary adenocarcinoma, Transplantable to mice

- **OVMANA** (JCRB1045) Age 51, Female  
  Clear cell adenocarcinoma, Transplantable to mice

- **OVSAHO** (JCRB1046) Age 56, Female  
  Serous papillary adenocarcinoma, Transplantable to mice

- **OVTOKO** (JCRB1048) Age 78, Female  
  Clear cell adenocarcinoma, Transplantable to mice

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>JCRB No.</th>
<th>Histopathology</th>
<th>Tumorigenesis in nude mice s.c.</th>
<th>i.p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVISE</td>
<td>JCRB1043</td>
<td>Clear cell adenocarcinoma</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>OVKATE</td>
<td>JCRB1044</td>
<td>Serous papillary adenocarcinoma</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>OVMANA</td>
<td>JCRB1045</td>
<td>Clear cell adenocarcinoma</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>OVSAHO</td>
<td>JCRB1046</td>
<td>Serous papillary adenocarcinoma</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>OVTOKO</td>
<td>JCRB1048</td>
<td>Clear cell adenocarcinoma</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**NOZ/OZ** (Gallbladder / Bile duct carcinoma)

- **NOZ** (JCRB1033) Age 48, Female  
  Gallbladder carcinoma of adenocarcinoma tubular (moderately differentiated), Transplantable to mice

- **OZ** (JCRB1032) Age 71, Male  
  Bile duct carcinoma (poorly differentiated), Transplantable to mice