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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
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*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: BIOARTIFICIAL LIVER SYSTEM

(57) Abstract: A bioartificial liver system is described that incorporates a cell reservoir and hepatocyte spheroids to both increase the number of and longevity of cells in the system. Additional methods are also described for forming spheroid aggregates from isolated hepatocytes.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/17909

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 35/14; A61F 2/01; C12M 3/06; C12N 5/06, 5/08

US CL : 424/529, 93.7, 423; 435/2, 289.1, 325

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/529, 93.7, 423; 435/2, 289.1, 325

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,595,909 A (HU et al) 21 January 1997 (21.01.1997), see entire document,	22
---	especially paragraph bridging columns 12 and 13 and column 13, lines 5-16.	-----
Y		1-21
X	US 5,270,192 A (LI et al) 14 December 1993 (14.12.1993), see entire document,	22
---	especially column 6, lines 49-57.	-----
Y		1-21
Y	US 5,981,211 A (HU et al) 09 November 1999 (09.11.1999), see entire document,	1-21
	especially column 10, lines 14-22.	

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

PCT/US03/17909

Continuation of B. FIELDS SEARCHED Item 3:

WEST

search terms; bioreactor, hepatocytes, bioartificial liver, spheroids, fibers, cartridge, ultrafiltration, blood