(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 1 December 2005 (01.12.2005)

(10) International Publication Number WO 2005/112629 A3

(51) International Patent Classification: *C12M 1/42* (2006.01)

(21) International Application Number:

PCT/US2005/016432

(22) International Filing Date: 11 May 2005 (11.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/570,846 12 May 2004 (12.05.2004) US

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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

with international search report

(88) Date of publication of the international search report:

29 March 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROCOMPETENT CELLS PREPACKAGED FOR ELECTROPORATION

(57) Abstract: Electrocompetent cells are prepackaged in a sterilized cuvette, and the cell contents frozen, such that electroporation can be performed simply by first thawing the cuvette contents, then electrically connecting the cuvette to a power source suitable for electroporation. The cuvette contains, in addition to the cells, a suspending medium, and optionally also a cryoprotectant for the cells. This invention also resides in a process for preparing electroporation cells for use, or alternatively for shipping or transport, comprising forming a suspension of the cells in a suspending medium preferably comprising a cryoprotectant, placing the cell suspension in a sterilized electroporation cuvette, and quickly freezing the cells while in the cuvette. The cells are then stored, and/or shipped or transported under subzero (Celsius) temperatures for subsequent use.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/16432

A. CLA	SSIFICATION OF SUBJECT MATTER			
IPC(8):	C12M 1/42(2007.01)			
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USPC:	435/285.2			
According to	According to International Patent Classification (IPC) or to both national classification and IPC			
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B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols)				
U.S.: 435/285.2				
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C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where		Relevant to claim No.	
Y	US 5,186,800 (DOWER) 16 February 1993 (16.02.)	1993), column 5, lines 6-9, and column 6.	1-18	
	line 18, through column 7, line 7.	,, , , , , , , , , , , , , , , , , , , ,	1 10	
Y	US 5,663,048 (WINKFEIN et al) 2 September 1997 (02.09.1997), column 10, line 53,			
	through column 11, line 17.			
Е	US 2005/0214946 A1 (BEBEE) 29 September 2005	(29.09.2005) paragraphs 0019.0034	1-18	
	0036, and 0040-0042.	(25:05:2005), paragraphs 0015, 0054-	1-10	
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Further	documents are listed in the continuation of Box C.	See patent family annex.	}	
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priority date claimed				
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Facsimile No. (571) 273-3201				
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