

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
4 November 2010 (04.11.2010)

(10) International Publication Number  
**WO 2010/127367 A3**

(51) International Patent Classification:  
*C12Q 1/04* (2006.01)      *C12N 5/10* (2006.01)  
*C12N 15/63* (2006.01)      *C12N 5/074* (2010.01)

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(21) International Application Number:  
PCT/US2010/033447

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:  
3 May 2010 (03.05.2010)

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
61/174,609      1 May 2009 (01.05.2009)      US

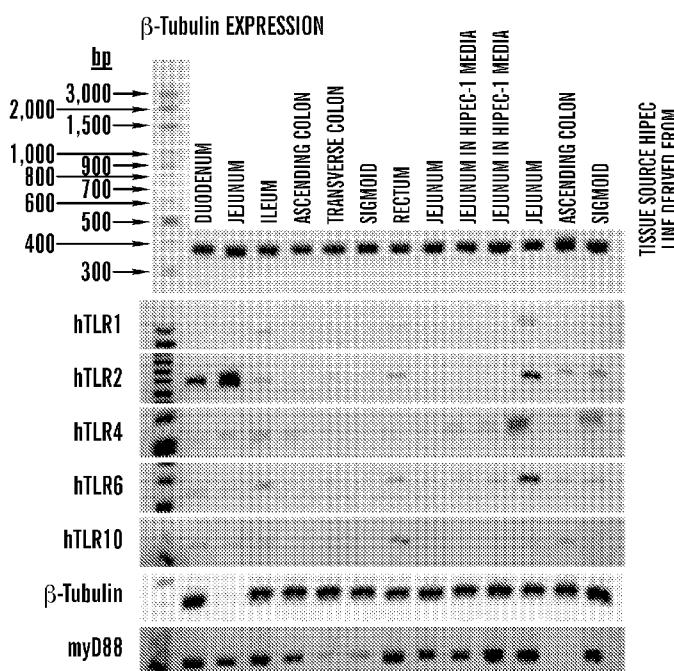
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[Continued on next page]

(54) Title: HUMAN GASTROINTESTINAL STEM CELL-DERIVED PRIMARY INTESTINAL EPITHELIAL CELL SYSTEM AND METHODS OF USE THEREOF



(57) Abstract: The present invention relates to an intestinal primary epithelial cell system for detecting gastrointestinal segment-specific activation or suppression of a Toll-like receptor (TLR) by a target agent. The cell system includes an isolated human intestinal primary epithelial cell (HIPEC) line that expresses at least one TLR, where the HIPEC line is derived from a differentiable adult human gastrointestinal stem cell (ahGISC) line. Also disclosed are various methods of using the cell system, a kit that includes the cell system, and an isolated cell culture including an isolated HIPEC line derived from a differentiable ahGISC line.

**FIG. 15**

SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — before the expiration of the time limit for amending the GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report (Art. 21(3))

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

3 March 2011

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2010/033447**

**A. CLASSIFICATION OF SUBJECT MATTER**

**C12Q 1/04(2006.01)i, C12N 15/63(2006.01)i, C12N 5/10(2006.01)i, C12N 5/074(2010.01)i**

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)

C12Q 1/04; C07K 14/705; A61K 39/00; A61K 9/127; A61K 48/00; A61K 31/4166; A61K 31/4745; A61K 31/7076

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Korean utility models and applications for utility models  
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
eKOMPASS(KIPO internal) & Keywords: intestinal primary epithelial cell, gastrointestinal segment-specific activation, Toll-like receptor, gastrointestinal stem cell, HIPEC, ahGISC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MACKINNON, K. et al. Expression profile of toll-like receptors within the gastrointestinal tract of 2-day-old <i>Salmonella enteritidis</i> -infected broiler chickens. <i>Veterinary Microbiology</i> . 2009, vol.137, pp.313-319 See the whole document	1-47
A	WO 2007-031879 A2 (EISAI CO., LTD.) 22 March 2007 See the whole document	1-47
A	US 2006-0058365 A1 (KOHN et al.) 16 March 2006 See the whole document	1-47
A	US 2006-0134128 A1 (SEYA et al.) 22 June 2006 See the whole document	1-47
A	US 2007-0004654 A1 (RAZ et al.) 04 January 2007 See the whole document	1-47
A	US 2003-0232074 A1 (LIPFORD et al.) 18 December 2003 See the whole document	1-47

Further documents are listed in the continuation of Box C.

See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

12 JANUARY 2011 (12.01.2011)

Date of mailing of the international search report

**13 JANUARY 2011 (13.01.2011)**

Name and mailing address of the ISA/KR

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2010/033447**

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