

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2015/034962 A8

(43) International Publication Date
12 March 2015 (12.03.2015)

- (51) International Patent Classification:
C12N 15/03 (2006.01)
- (21) International Application Number:
PCT/US2014/053954
- (22) International Filing Date:
3 September 2014 (03.09.2014)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/873,308 3 September 2013 (03.09.2013) US
- (71) Applicant: **BELL BIOSYSTEMS, INC.** [US/US]; 530
Lytton Ave., 2nd Floor, Palo Alto, CA 94301 (US).
- (72) Inventors: **BELL, Caleb, B.**; 334 N. Claremont St., San
Mateo, CA 94401 (US). **BAZAROV, Alexey**; 36407 Ser-
eno Common, Fremont, CA 94536 (US). **WAKEEL, Ab-
dul**; 4988 Cappy Terrace, Fremont, CA 94555 (US). **BAR-
ROZO, Joyce**; 150 Yorkshire Court, San Bruno, CA
94066 (US).
- (74) Agents: **OH, Euk et al.**; 2479 East Bayshore Road, Suite
215, Palo Alto, CA 94303 (US).

(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, BN, 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, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,
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.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ,
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, KM, ML, MR, NE, SN, TD, TG).

Published:

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

[Continued on next page]

(54) Title: HOST CELL MODIFICATION WITH ARTIFICIAL ENDOSYMBIONTS

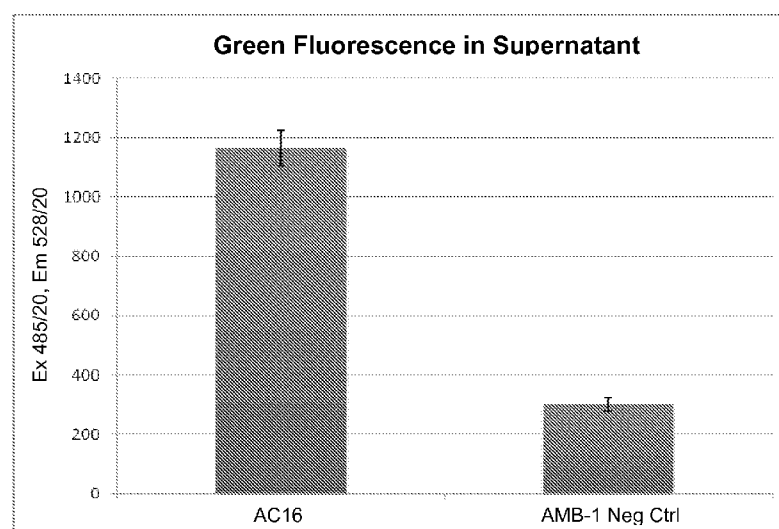


FIG. 10

(57) Abstract: The present invention is directed generally to host cells with artificial endosymbionts, wherein the artificial endosymbiont and the host cell communicate with each other to alter a phenotype of the host cell. In some embodiments, the communication comprises the secretion of a polypeptide from the artificial endosymbiont into the host cell. The secreted polypeptide can be a selectable marker, a reporter protein, a transcription factor, a signal pathway protein, a receptor, a growth factor, a cytokine, an effector molecule or other factors that can produce a phenotype in the host cell.



— *with sequence listing part of description (Rule 5.2(a))*

(15) Information about Correction:
see Notice of 21 April 2016

(48) Date of publication of this corrected version:

21 April 2016