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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 October 2009 (08.10.2009)

PCT

(10) International Publication Number
WO 2009/121727 A1

(51) International Patent Classification:
C12Q 1/68 (2006.01)

(21) International Application Number:
PCT/EP2009/053299

(22) International Filing Date:
20 March 2009 (20.03.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0806136.8 4 April 2008 (04.04.2008) GB
0900848.3 20 January 2009 (20.01.2009) GB

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(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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

WO 2009/121727 A1

(54) **Title**: DETECTION AND ENUMERATION OF MICROORGANISMS

(57) **Abstract**: A method for detecting and enumerating viable microorganisms in a sample suspected of containing said microorganisms comprising: (1) contacting said sample with a cell nutritive resource and a cellular proliferation inhibitor, (2) contacting said sample with at least one fluorescence labelled oligonucleotidic probe able to specifically hybridise at least one portion of ribosomal nucleic acids of said microorganisms, (3) detecting and quantifying the fluorescent signal, in which the microorganisms are of the species Legionella pneumophila and in which the cellular proliferation inhibitor is selected from the group consisting of ciprofloxacin and cephalexin. The invention also includes a kit comprising: (1) a cell nutritive resource, (2) a cellular proliferation inhibitor, (3) at least one fluorescence labelled oligonucleotidic probe able to specifically hybridise at least one portion of ribosomal nucleic acids of said microorganisms, (4) a means for detecting and quantifying the fluorescent signal, in which the cellular proliferation inhibitor is selected from the group consisting of ciprofloxacin and cephalexin.