

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 September 2022 (01.09.2022)



(10) International Publication Number
WO 2022/183109 A1

(51) International Patent Classification:

A61N 1/44 (2006.01) *C12N 13/00* (2006.01)
B81B 7/00 (2006.01) *C12N 15/09* (2006.01)
C07H 19/00 (2006.01) *C12N 15/87* (2006.01)

(21) International Application Number:

PCT/US2022/018154

(22) International Filing Date:

28 February 2022 (28.02.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/154,050 26 February 2021 (26.02.2021) US
63/184,908 06 May 2021 (06.05.2021) US

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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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,

(54) Title: BUFFER SOLUTIONS FOR ELECTROPORATION

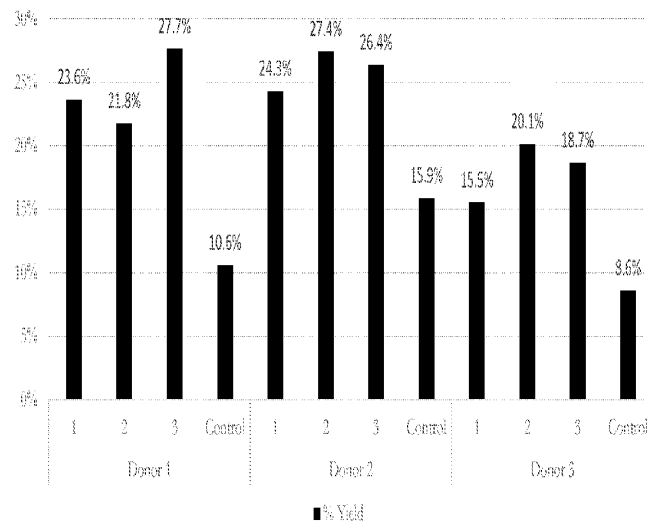


FIG. 1

(57) Abstract: An electroporation buffer comprising: a solvent; a sugar; a chloride salt; and a buffering agent. In certain embodiments: the solvent is water; the sugar is glucose or mannitol; the chloride salt is potassium chloride (KCl) or magnesium chloride (MgCl₂); and the buffering agent is sodium phosphate, 4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (HEPES) and/or dimethyl sulfoxide (DMSO). A method of electroporation, the method comprising applying an electric current to a suspension comprising: isolated eukaryotic cells; a biological material that is exogenous to the cells; and the aforementioned buffer. A recombinant cell produced using such a method. An electroporation apparatus comprising: one or more chambers; one or more pairs of electrodes configured to generate electric fields within the one or more chambers, wherein each electric field corresponds to one

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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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))

chamber; and a flow channel. A method for electroporation comprising utilizing the aforementioned electroporation apparatus.