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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 July 2019 (25.07.2019)

WIPO | PCT

(10) International Publication Number
WO 2019/143291 A1

(51) International Patent Classification:
A61K 39/12 (2006.01) *C12N 7/00* (2006.01)
A61K 39/145 (2006.01) *A61P 31/16* (2006.01)

(21) International Application Number:
PCT/SG2018/050030

(22) International Filing Date:
18 January 2018 (18.01.2018)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **YISHENG BIOPHARMA (SINGAPORE) PTE. LTD.** [SG/SG]; Serangoon Central Post Office PO Box 584, Singapore 915503 (SG).

(72) Inventors: **ZHANG, Yi**; c/o Yisheng Biopharma (Singapore) Pte. Ltd., Serangoon Central Post Office PO Box 584, Singapore 915503 (SG). **YAN, Yuhe**; c/o Yisheng Biopharma (Singapore) Pte. Ltd., Serangoon Central Post Office PO Box 584, Singapore 915503 (SG). **ZHANG, Xu**; c/o Yisheng Biopharma (Singapore) Pte. Ltd., Serangoon Central Post Office PO Box 584, Singapore 915503 (SG). **COTON, Thomas Anthony**; c/o Yisheng Biopharma (Singapore) Pte. Ltd., Serangoon Central Post Office PO Box 584, Singapore 915503 (SG).

(74) Agent: **CHUNG, Jing Yeng**; Marks & Clerk Singapore LLP, Tanjong Pagar, P O Box 636, Singapore 910816 (SG).

(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, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, 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, 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).

Declarations under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

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

WO 2019/143291 A1

(54) Title: METHOD FOR ADAPTING INFLUENZA VIRUSES TO VERO CELLS

(57) Abstract: A method for adapting an influenza virus to Vero cells is provided. The method comprises infecting Vero cells with the influenza virus, cultivating the infected Vero cells, harvesting influenza viruses of each passage, wherein infectious dose of the influenza viruses of one passage is greater than or equal to infectious dose of the influenza viruses of a previous passage. The present disclosure also relates to a composition. Said composition comprises polyriboinosinic acid-polyribocytidylic acid, at least one antibiotic or polyamide compound, at least one positive ion, influenza viruses and/or influenza antigens, wherein said influenza viruses and/or influenza antigens are acquired from Vero cell adapted influenza viruses.