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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 December 2013 (05.12.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/178344 A1

(51) International Patent Classification:
C12N 15/86 (2006.01) *C12N 5/071* (2010.01)

(21) International Application Number:
PCT/EP2013/001547

(22) International Filing Date:
24 May 2013 (24.05.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12004148.8 30 May 2012 (30.05.2012) EP
61/652,913 30 May 2012 (30.05.2012) US

(71) Applicant: **AMVAC AG** [CH/CH]; Metallstr. 4, CH-6300 Zug (CH).

(72) Inventor: **WIEGAND, Marian**; Milchstrasse 1, 81667 Muenchen (DE).

(74) Agent: **RICKER, Mathias**; Wallinger Ricker Schlotter Tostmann, Zweibrückenstr. 5-7, 80331 Muenchen (DE).

(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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, 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, ML, MR, NE, SN, TD, TG).

Published:

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

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

(54) Title: METHOD FOR EXPRESSION OF HETEROLOGOUS PROTEINS USING A RECOMBINANT NEGATIVE-STRAND RNA VIRUS VECTOR

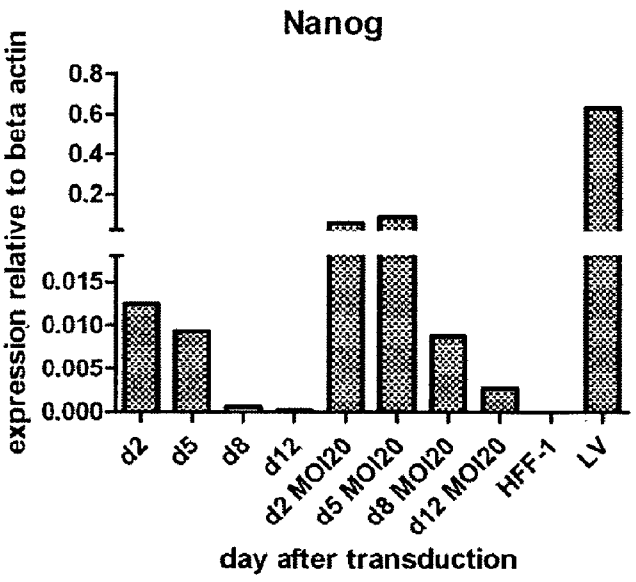


Fig. 3

(57) Abstract: The present invention provides a method of expressing at least one heterologous nucleic acid sequence in a cell, the method comprising introducing at least one heterologous nucleic acid sequence into a cell by infecting said cell with a recombinant negative-strand RNA virus vector comprising said at least one heterologous nucleic acid sequence, wherein the recombinant negative- strand RNA virus vector includes a viral genome coding for a mutated P protein, which leads to a loss of the viral genome replication ability without a loss of the viral transcription ability, and wherein said at least one heterologous nucleic acid sequence encodes a cellular reprogramming or programming factor or a therapeutic protein. In addition, the present invention provides a cell or a population of cells prepared in vitro by said method as well as a pharmaceutical composition comprising said cell or population of cells.

WO 2013/178344 A1