



(51) International Patent Classification:

B01D 15/34 (2006.01) **B01D 61/38** (2006.01)
B01D 15/36 (2006.01) **C12N 15/864** (2006.01)

(21) International Application Number:

PCT/US2018/040430

(22) International Filing Date:

29 June 2018 (29.06.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/527,633 30 June 2017 (30.06.2017) US
62/531,744 12 July 2017 (12.07.2017) US
62/567,905 04 October 2017 (04.10.2017) US

(71) Applicant: **SPARK THERAPEUTICS, INC.** [US/US];
3737 Market Street, Suite 1300, Philadelphia, Pennsylvania
19104 (US).

(72) Inventors: **OH, Younghoon**; 766 Robinhood Road, Bryn
Mawr, Pennsylvania 19010 (US). **QU, Guang**; 22 Beaver
Dam Drive, Sicklerville, New Jersey 08081 (US).

(74) Agent: **BEDGOOD, Robert M.**; PILLSBURY WIN-
THROP SHAW PITTMAN LLP, P.O. BOX 10500,
McLean, Virginia 22102 (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, 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,

(54) Title: AAV VECTOR COLUMN PURIFICATION METHODS

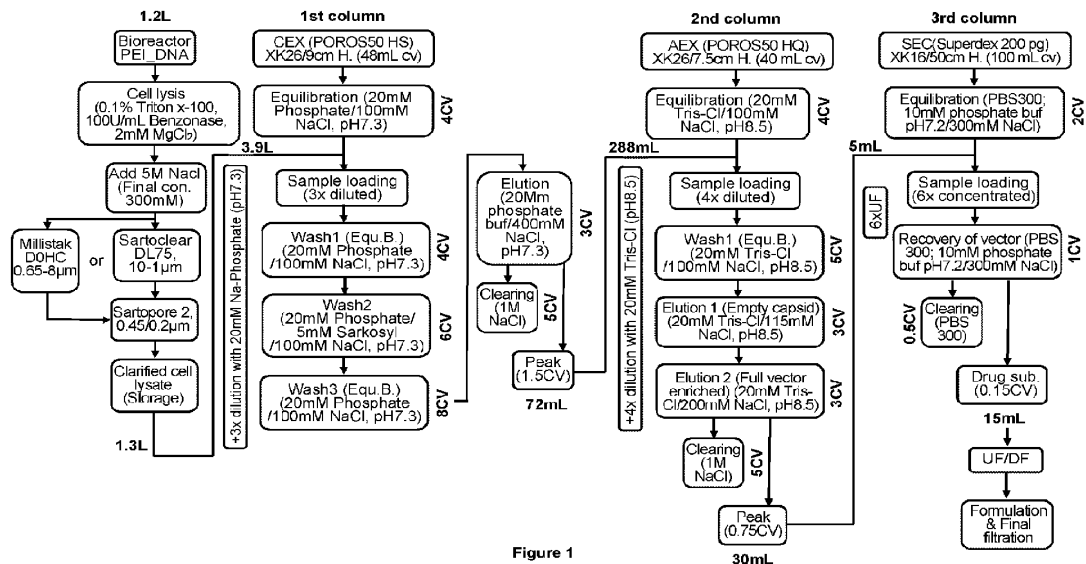


Figure 1

(57) Abstract: Described and provided herein are purification, production and manufacturing methods for recombinant adeno-associated viral (rAAV) vector particles. Purification, production and manufacturing methods set forth herein, for example, include at least 2 column chromatography steps. Column chromatography steps include, for example, cation exchange chromatography, anion exchange chromatography, size exclusion chromatography and/or AAV affinity chromatography alone or in combination and in any order.

[Continued on next page]

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

Published:

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