

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
5 January 2017 (05.01.2017)



(10) International Publication Number
WO 2017/004233 A1

(51) International Patent Classification:
A61K 31/198 (2006.01) *C12Q 1/68* (2006.01)

(21) International Application Number:
PCT/US2016/040138

(22) International Filing Date:
29 June 2016 (29.06.2016)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/186,085 29 June 2015 (29.06.2015) US

(71) Applicant: VANDERBILT UNIVERSITY [US/US];
2201 West End Avenue, 305 Kirkland Hall, Nashville,
Tennessee 37240 (US).

(72) Inventors: SUMMAR, Marshall; 208 D Street S.E.,
Washington, District of Columbia 20003 (US). BARR,
Frederick; 122 Summers Bay Dr., Ridgeland, Mississippi
39157 (US).

(74) Agents: POSORSKE, Laurence H. et al.; HUNTON &
WILLIAMS LLP, Intellectual Property Department, 2200
Pennsylvania Ave., NW, Washington, District of Columbia
20037 (US).

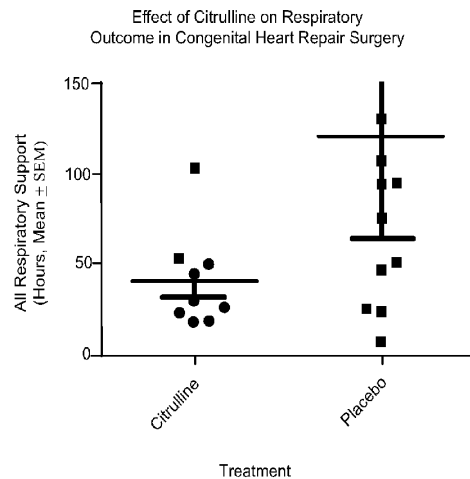
(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
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,

[Continued on next page]

(54) Title: INTRAVENOUS ADMINISTRATION OF CITRULLINE DURING SURGERY

(57) Abstract: [0167] A method for
administering citrulline to a patient
during surgery without filtration of the
hemolysis.



Note: 1 data point is outside axis limits (placebo, 672 h)
P = 0.1911 Satterthwaite t test, n = 20 usable patients

FIG. 16

WO 2017/004233 A1



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).

— *as to the applicant's entitlement to claim the priority of
the earlier application (Rule 4.17(iii))*

Published:

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

Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii))*