

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
05 May 2022 (05.05.2022)



(10) International Publication Number
WO 2022/090509 A1

(51) International Patent Classification:
C07K 16/24 (2006.01) *A61P 43/00* (2006.01)
A61P 3/06 (2006.01)

(21) International Application Number:
PCT/EP2021/080202

(22) International Filing Date:
29 October 2021 (29.10.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2017244.1 30 October 2020 (30.10.2020) GB

(71) Applicants: **NATIONAL UNIVERSITY OF SINGAPORE** [SG/SG]; 21 Lower Kent Ridge Road, Singapore 119077 (SG). **SINGAPORE HEALTH SERVICES PTE. LTD.** [SG/SG]; 31 THIRD HOSPITAL AVENUE, #03-03 BOWYER BLOCK C, Singapore 168753 (SG).

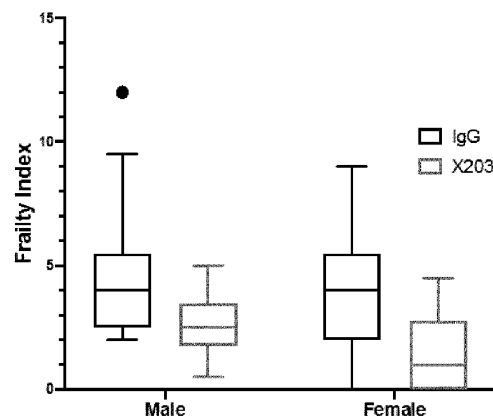
(71) Applicant (for LS only): **CLEGG, Richard** [GB/GB]; Mewburn Ellis LLP, Aurora Building, Counterslip, Bristol, BS1 6BX (GB).

(72) Inventors: **CORDEN, Benjamin**; c/o National Heart Centre Singapore, 5 Hospital Drive, Singapore 169609 (SG). **WIDJAJA, Anissa**; c/o Duke-NUS Medical School, 8 College Road, Singapore 169857 (SG). **SCHAEFFER, Sebastian**; c/o National Heart Centre Singapore, 5 Hospital Drive, Singapore 169609 (SG). **COOK, Stuart**; c/o National Heart Centre Singapore, 5 Hospital Drive, Singapore 169609 (SG). **SINGH, Brijesh Kumar**; c/o Duke-NUS Medical School, 8 College Road, Singapore 169857 (SG).

(74) Agent: **MEWBURN ELLIS LLP**, Aurora Building, Counterslip, Bristol, BS1 6BX (GB).

(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: METHODS TO EXTEND HEALTH-SPAN AND TREAT AGE-RELATED DISEASES



Source of Variation	% of total variation	P value	P value summary
Interaction	0.1437	0.7628	ns
Sex	4.573	0.0933	ns
Antibody	20.69	0.0007	***

Figure 1

(57) Abstract: The present disclosure relates to the diagnosis, treatment and prophylaxis of age-related diseases, and increasing healthspan. Provided are methods of treating or preventing an age-related disease/condition, and in particular of treating or preventing frailty, comprising administering a therapeutically or prophylactically effective amount of an agent capable of inhibiting interleukin 11 (IL-11)-mediated signalling to a subject. Also provided are agents capable of inhibiting interleukin 11 (IL-11)-mediated signalling for use in such a method. Further provided is the use of agents capable of inhibiting interleukin 11 (IL-11)-mediated signalling in the manufacture of a medicament for use in such a method.

[Continued on next page]

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

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*