

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
20 January 2022 (20.01.2022)



(10) International Publication Number
WO 2022/015240 A1

(51) International Patent Classification:

C07K 14/435 (2006.01) A61P 31/00 (2006.01)
A61K 38/17 (2006.01) A61P 33/00 (2006.01)
A61K 47/64 (2017.01) A61P 35/00 (2006.01)

(21) International Application Number:

PCT/SG2021/050405

(22) International Filing Date:

09 July 2021 (09.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202006656Q 13 July 2020 (13.07.2020) SG

(71) Applicant: NATIONAL UNIVERSITY OF SINGAPORE [SG/SG]; 21 Lower Kent Ridge Road, Singapore 119077 (SG).

(72) Inventors: LU, Jinhua; c/o National University of Singapore, Yong Loo Lin School of Medicine / Dept. of Micro-

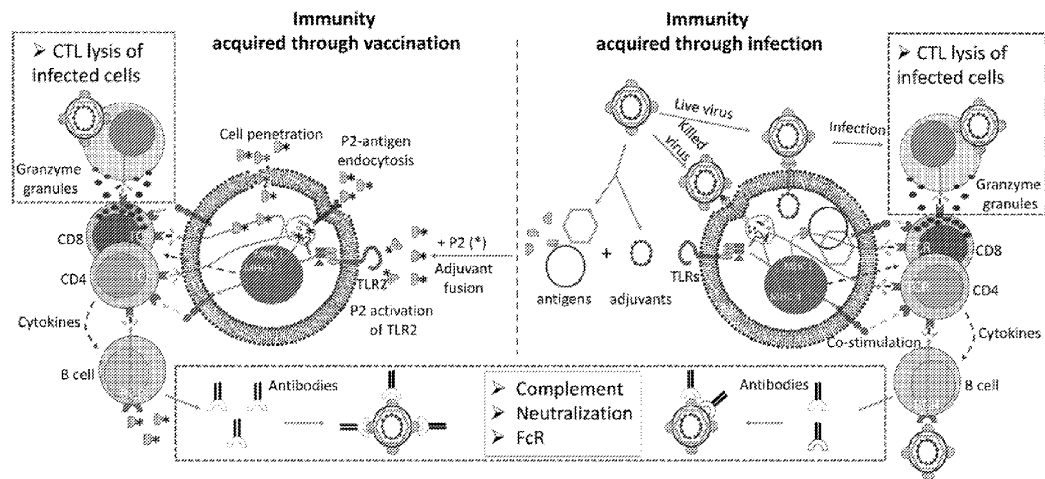
biology and Immunology, 21 Lower Kent Ridge Road, Singapore 119077 (SG). WU, Shan; c/o National University of Singapore, Yong Loo Lin School of Medicine / Dept. of Microbiology and Immunology, 21 Lower Kent Ridge Road, Singapore 119077 (SG).

(74) Agent: DOWSING, Bruce John; Marks & Clerk Singapore LLP, Tanjong Pagar Post Office, 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, 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.

(54) Title: PEPTIDE ADJUVANT FOR ITS THERAPEUTIC APPLICATIONS IN VIRAL AND TUMOUR VACCINE DEVELOPMENT AND CANCER IMMUNOTHERAPY AND AUTOIMMUNE DISEASE DIAGNOSIS AND TREATMENTS

Figure 15



(57) Abstract: The present invention relates to an isolated peptide, comprising or consisting of a glycine and arginine-rich (GAR/RGG) region with alarmin and/or cell penetrating activity, bioactive fragments or mutants thereof, and compositions comprising the peptide and an antigen or cargo molecule for vaccine development, immunotherapy, and/or the delivery of nucleic acids and proteins into cells. Further, the invention provides a method of detection using these peptides, and a process of producing the peptides.

[Continued on next page]

(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))*

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