

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
19 December 2024 (19.12.2024)



(10) International Publication Number  
**WO 2024/256595 A1**

- (51) International Patent Classification:  
*G16B 20/30* (2019.01) *G16B 40/20* (2019.01)
- (21) International Application Number:  
PCT/EP2024/066470
- (22) International Filing Date:  
13 June 2024 (13.06.2024)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
23386047.7 13 June 2023 (13.06.2023) EP  
24165372.4 21 March 2024 (21.03.2024) EP
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- (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,

(54) Title: B-CELL EPITOPE PREDICTION

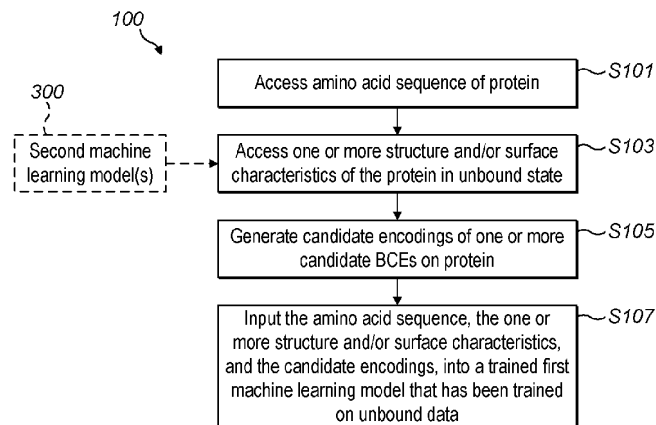


FIG. 1

(57) Abstract: A computer-implemented method of predicting whether a protein comprises a B-cell epitope that is likely to instigate a binding event with an antibody is disclosed. The method comprises: (a) accessing one or more structure and/or surface characteristics of the protein; and (b) inputting the one or more structure and/or surface characteristics of the protein into a trained first machine learning model to predict whether the protein comprises a true B-cell epitope, wherein the first machine learning model is trained by: generating a first reference dataset that comprises: (i) a plurality of first reference proteins, each first reference protein comprising at least one B-cell epitope classified as a true B-cell epitope; and (ii) one or more structure and/or surface characteristics of each first reference protein in an unbound state; and training the first machine learning model using the first reference dataset to learn a relationship between the structure and/or surface characteristic(s) of the first reference proteins in an unbound state, and the B-cell epitopes classified as true B-cell epitopes.

[Continued on next page]

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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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).

**Published:**

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

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