

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

**(19) World Intellectual Property
Organization
International Bureau**



(10) International Publication Number
WO 2024/068881 A1



(51) International Patent Classification:
G16H 20/10 (2018.01)

(72) **Inventors:** MALBERT, Charles-Henri; 30 rue du Claray, 35170 BRUZ (FR). ALLOUCHE, Maurice Reginald; 24 avenue Charles Floquet, 75007 PARIS (FR).

(21) International Application Number: PCT/EP2023/076969

(74) **Agent:** REGIMBEAU; 20, rue de Chazelles, 75847 PARIS CEDEX 17 (FR).

(22) **International Filing Date:** 28 September 2023 (28.09.2023)

(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, 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, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
PCT/IB2022/000548
30 September 2022 (30.09.2022) IB

(71) **Applicant: PALTECH** [FR/FR]; 5 avenue du Général Tripier, 75007 PARIS (FR).

(54) Title: COMPUTER-AIDED THERAPY FOR TREATING INSULIN RESISTANCE AND/OR RESTORING GLUCOSE HOMEOSTASIS IN A SUBJECT IN NEED

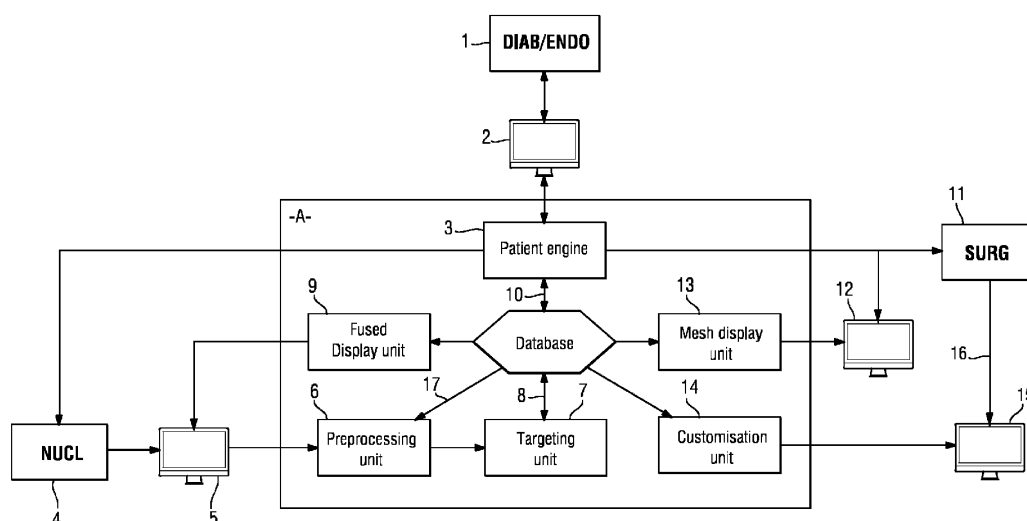


Fig. 1

(57) Abstract: The invention concerns a system and a method for computer-aided therapy for treating type 2 diabetes, insulin resistance and/or restoring glucose homeostasis in a subject in need, comprising: a main frame configured for performing the following steps: a) receiving a subject profile created during a consultation of the subject by a MD at a first point of care, the subject profile comprising data useful for a therapy and the follow-up of the subject; b) receiving a set of images associated with the subject, the set of images have been obtained at a second point of care, the set of images comprising a 3D computed tomography, CT, images of the abdomen of the subject including the pancreatic area and the portal vein of the subject; and a set of dynamic 3D positron emission tomography, PET, images of the abdomen after an intra venous injection of a radiolabeled GLP-1r ligand, PET images comprising the positron imaging

[Continued on next page]

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))*

of the GLP-1r in the abdomen, the radiolabeled ligand is binding on GLP-1r; c) processing the PET and CT images for obtaining a 2D distribution of the quantitative density of the GLP-1r along the portal vein; d) identifying a region with lower GLP-1r along the portal vein for which the values of the 2D distribution are less than a given threshold and for which the 2D distribution is less than or equal to a reference value; the threshold being based on the distribution of GLP-1r along the portal vein.