



- (51) International Patent Classification:
A61N 5/10 (2006.01) *A61K 51/12* (2006.01)
- (21) International Application Number:
PCT/IB2022/055322
- (22) International Filing Date:
08 June 2022 (08.06.2022)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
17/343,786 10 June 2021 (10.06.2021) US
- (71) Applicant: **ALPHA TAU MEDICAL LTD.** [IL/IL]; 5 Kiryat Hamada Street, 9777605 Jerusalem (IL).
- (72) Inventors: **KELSON, Itzhak**; 94 Dizengoff Street, 6439606 Tel Aviv (IL). **KEISARI, Yona**; 8 Hagaon Eliyahu Street, 5326477 Ramat Gan (IL). **GAT, Amnon**; 16 Oren Street, 4585800 Matan (IL). **DEN, Robert**; 319 North Bowman Avenue, Merion Station, Pennsylvania 19066 (US). **MAGEN, Ofer**; 9 Alexander Pen Street, 4541509 Hod Hasharon (IL). **DOMANKEVICH, Vered**;

14 Beeri Street, 4526780 Hod Hasharon (IL). **ARAZI, Lior**; 201/1 Bnei Efrayim Street, Apt. 8, 6998401 Tel Aviv (IL). **COOKS, Tomer**; 6 Shoshan Street, 7054306 Gedera (IL). **HEGER, Guy**; 8a Abba Achimeir Street, 5258736 Ramat Gan (IL). **DUMANČIĆ, Mirta**; 24 Haim Nachman Bialik Street, 8435005 Beer Sheva (IL). **LUZ, Ishai**; 94 Gevim Street, 7916500 Kibbutz Gevim (IL). **VATARESCU, Maayan Hedva**; 3 Barkan Street, 8533800 Lehavim (IL).

(74) Agent: **KLIGLER & ASSOCIATES PATENT ATTORNEYS LTD.**; P.O. Box 20612, 6120601 Tel Aviv (IL).

(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, IQ, IR, IS, IT, JM, 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,

(54) Title: ACTIVITY LEVELS FOR DIFFUSING ALPHA-EMITTER RADIATION THERAPY

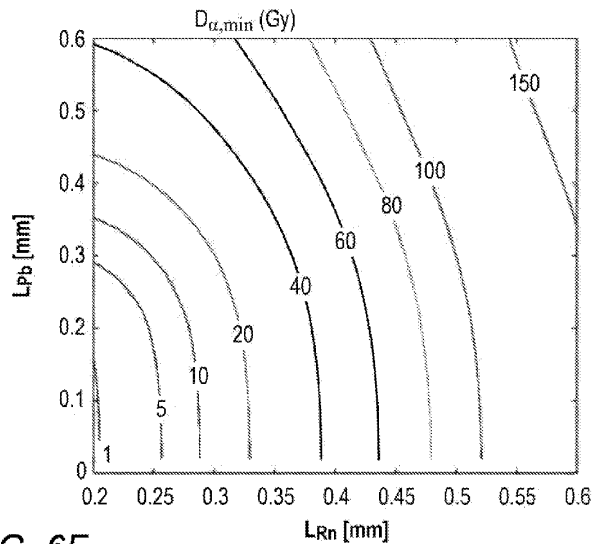


FIG. 6F

(57) Abstract: A method for treating a cancerous tumor, by implanting in the cancerous tumor at least one diffusing alpha-emitter radiation therapy (DaRT) source (21) with a suitable radon release rate and for a given duration, such that the source (21) provides during the given duration a cumulated activity of released radon of at least 10 Mega becquerel (MBq) hour, per centimeter length. Optionally, the sources (21) are implanted in an array (160) of sources (21), each source separated from its neighboring sources (21) in the array by not more than 4.5 millimeters.

[Continued on next page]

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).

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*