

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

(19) World Intellectual Property
Organization
International Bureau

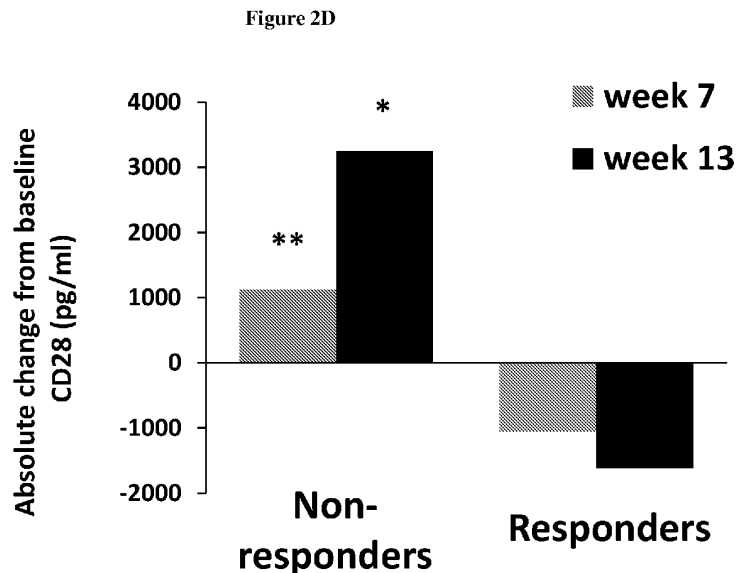
(43) International Publication Date
10 June 2021 (10.06.2021)



(10) International Publication Number
WO 2021/111442 A1

- (51) **International Patent Classification:**
G01N 33/50 (2006.01) *G01N 33/68* (2006.01)
- (21) **International Application Number:**
PCT/IL2020/051244
- (22) **International Filing Date:**
02 December 2020 (02.12.2020)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/942,276 02 December 2019 (02.12.2019) US
- (71) **Applicant:** **BIOND BIOLOGICS LTD.** [IL/IL]; Yarok Street, P.O. Box 4, 2017400 Misgav Industrial Park (IL).
- (72) **Inventors:** **HAKIM, Motti**; P.O. Box 45, 1934000 Kibbutz Gazit (IL). **FRIDMAN-DROR, Anna**; 1923900 Kibbutz Dalia (IL). **SHILOVIZKY, Orit**; 22 Yotam Street, 3467200 Haifa (IL). **ALISHEKEVITZ, Dror**; 77B Tamar Street, P.O. Box 3164, 3653405 Kiryat Tivon (IL). **MANDEL, Ilana**; 2018400 Manof (IL). **BEN-MOSHE, Tehila**; 12 Amzaleg Street, 6514867 Tel Aviv (IL). **SAPIR,**
- (74) **Agent:** **KESTEN, Dov et al.**; 100 Hahashmonaim Street, P.O. Box 52630, 6713317 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, 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,

(54) **Title:** SOLUBLE CD28 LEVELS DURING IMMUNOTHERAPY



(57) **Abstract:** Methods of diagnosing and predicting cancer relapse comprising measuring soluble CD28 levels in a subject, wherein an increase in soluble CD28 is indicative of cancer relapse or imminent cancer relapse, are provided. Methods of determining response to PD-1/PD-L1 based immunotherapy in a subject in need thereof, comprising measuring sCD28 levels in a subject undergoing PD-1/PD-L1 based immunotherapy at at least two time points wherein a decrease indicates response and an increase indicates lack of response, are also provided.

[Continued on next page]

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