

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

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2017/161349 A1

(43) International Publication Date
21 September 2017 (21.09.2017)

(51) International Patent Classification:

A61K 31/7064 (2006.01) *C07H 19/11* (2006.01)
A61K 31/7068 (2006.01) *C07H 19/213* (2006.01)
A61K 31/708 (2006.01)

(21) International Application Number:

PCT/US2017/023093

(22) International Filing Date:

17 March 2017 (17.03.2017)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/310,364	18 March 2016 (18.03.2016)	US
62/355,382	28 June 2016 (28.06.2016)	US
62/396,140	17 September 2016 (17.09.2016)	US

(71) Applicants: **IMMUNE SENSOR, LLC** [US/US]; 2110 Research Row, Suite 610, Dallas, Texas 75235 (US). **THE BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM** [US/US]; 201 West 7th 78701, Austin, TX 78701 (US).

(72) Inventors: **ZHONG, Boyu**; 700 Krohn Court, Irving, Texas 75038 (US). **SUN, Lijun**; 8820 Southwestern blvd, apt 1102, Dallas, Texas 75206 (US). **WEL, Qi**; 4538 Glenwick Ln., Dallas, Texas 75205 (US). **DAI, Yuanwei**; 5720 Forest Park Rd, Apt. 2302, Dallas, Texas 75235 (US). **CHEN, Chuo**; 3483 McFarlin blvd, Dallas, Texas 75205 (US). **CHEN, Zhijian**; 3453 Purdue Ave, Dallas, Texas 75225 (US).

(74) Agent: **WEINTRAUB, Jacob G.**; JWIP & Patent Services, LLC, 670 Depot Street, PO Box 1265, Easton, MA 02334 (US).

(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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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))



WO 2017/161349 A1

(54) Title: CYCLIC DI-NUCLEOTIDE COMPOUNDS AND METHODS OF USE

(57) Abstract: Disclosed are cyclic-di-nucleotide cGAMP analogs, methods of synthesizing the compounds, pharmaceutical compositions comprising the compounds thereof, and use of compounds and compositions in medical therapy.