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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
09 January 2020 (09.01.2020)

WIPO | PCT

(10) International Publication Number
WO 2020/007892 A1

(51) International Patent Classification:
C12N 15/113 (2010.01)

(21) International Application Number:
PCT/EP2019/067799

(22) International Filing Date:
03 July 2019 (03.07.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/693,851	03 July 2018 (03.07.2018)	US
62/726,005	31 August 2018 (31.08.2018)	US

(71) Applicant *(for all designated States except US)*: **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, 4070 Basel (CH).

(71) Applicant *(for US only)*: **HOFFMANN-LA ROCHE INC.** [US/US]; Great Notch, 150 Clove Road 8th Floor, Suite 8 - Legal Department, Little Falls, New Jersey 07424 (US).

(72) Inventors: **HAGEDORN, Peter**; c/o Roche Innovation Center Copenhagen A/S Fremtidsvej 3, 2970 Hørsholm (DK). **HØG, Anja Mølhart**; c/o Roche Innovation Center Copenhagen A/S Fremtidsvej 3, 2970 Hørsholm (DK). **OLSON, Richard E.**; Wallingford, Connecticut 06492 (US). **JENSEN, Marianne L.**; c/o Roche Innovation Center Copenhagen A/S Fremtidsvej 3, 2970 Hørsholm (DK).

(74) Agent: **RUDOLPH HANSEN, Marianne**; F. Hoffmann-La Roche AG, Grenzacherstrasse 124, 4070 Basel (CH).

(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, 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, 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).

Declarations under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

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

(54) Title: OLIGONUCLEOTIDES FOR MODULATING TAU EXPRESSION

(57) Abstract: The present invention relates to antisense oligonucleotides that are capable of modulating expression of Tau in a target cell. The oligonucleotides hybridize to MAPT mRNA. The present invention further relates to conjugates of the oligonucleotide and pharmaceutical compositions and methods for treatment of Tauopathies, Alzheimzer's disease, fronto-temporal dementia (FTD), FTDP-17, progressive supranuclear palsy (PSP), chronic traumatic encephalopathy (CTE), corticobasal ganglionic degeneration (CBD), epilepsy, Dravet syndrome, depression, seizure disorders and movement disorders.

WO 2020/007892 A1