

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 March 2023 (30.03.2023)



(10) International Publication Number
WO 2023/049367 A1

(51) International Patent Classification:

C07D 403/14 (2006.01) C07D 413/14 (2006.01)
C07D 401/04 (2006.01) C07D 403/04 (2006.01)
C07D 401/14 (2006.01) C07D 405/12 (2006.01)

(21) International Application Number:

PCT/US2022/044562

(22) International Filing Date:

23 September 2022 (23.09.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/248,334 24 September 2021 (24.09.2021) US

(71) Applicant: XENON PHARMACEUTICALS INC.

[CA/CA]; 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA).

(72) Inventors: LOFSTRAND, Verner; c/o Xenon Pharma-

ceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). KIM, Jung Yun; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). CLEMENT, Helen; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). CHARIFSON, Paul; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). JOHNSTONE, Shawn; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). SAB-BATANI, Juliette; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). SCHOLTES, Jan Felix; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). ZHANG, Wei; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). SUN, Shaoyi; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). CLARK, Michael; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). WESOLOWSKI, Steve; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). MUNUGANTI, Ravi; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA). RAJAMANI, Ramkumar; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burn-

aby, British Columbia V5G 4W8 (CA). BURFORD, Kristen; c/o Xenon Pharmaceuticals, 200 - 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA).

(74) Agent: LIGON, Toby, J. et al.; Seed Intellectual Property Law Group LLP, Suite 5400, 701 Fifth Avenue, Seattle, Washington 98104-7064 (US).

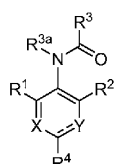
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, 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, 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))

(54) Title: PYRIDINYLACETAMIDE DERIVATIVES AS SODIUM CHANNEL ACTIVATORS



(57) Abstract: The present disclosure is directed to compounds of formula (I), wherein R¹, R², R³, R^{3a}, R⁴, Y, and X are as described herein, as stereoisomers, enantiomers, or tautomers thereof or mixtures thereof; or pharmaceutically acceptable salts, solvates, or prodrugs thereof, and pharmaceutical compositions comprising the compounds of formula (I), as described herein, which are useful as voltage-gated sodium channel modulators and are therefore are useful in treating seizure disorders such as epilepsy.



WO 2023/049367 A1