

(19) World Intellectual Property
Organization
International Bureau



WIPO | PCT



(10) International Publication Number

WO 2020/142102 A9

(43) International Publication Date
09 July 2020 (09.07.2020)

(51) International Patent Classification:
C07K 14/435 (2006.01) A61K 38/00 (2006.01)

(21) International Application Number:
PCT/US2019/012307

(22) International Filing Date:
04 January 2019 (04.01.2019)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: KINETA CHRONIC PAIN, LLC [US/US];
219 Terry Avenue North, Suite 300, Seattle, WA 98109
(US).

(72) Inventors: MERCADO, Jose; 11710 Greenwood Avenue
North Unit A, Seattle, WA 98133 (US). TARCHA, Eric,
J.; 24411 SE 17th Place, Sammamish, WA 98075 (US).
POSAKONY, Jeffrey, J.; 734 N 82nd St, Seattle, WA
98103 (US). IADONATO, Shawn; 6629 Holly Place SW,
Seattle, WA 98136 (US).

(74) Agent: ANTLE, Adrian, M. et al.; Jones Day, 250
Vesey Street, New York, NY 10281-1047 (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, 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,

(54) Title: CONOTOXIN PEPTIDE ANALOGS AND USES FOR THE TREATMENT OF PAIN AND INFLAMMATORY
CONDITIONS

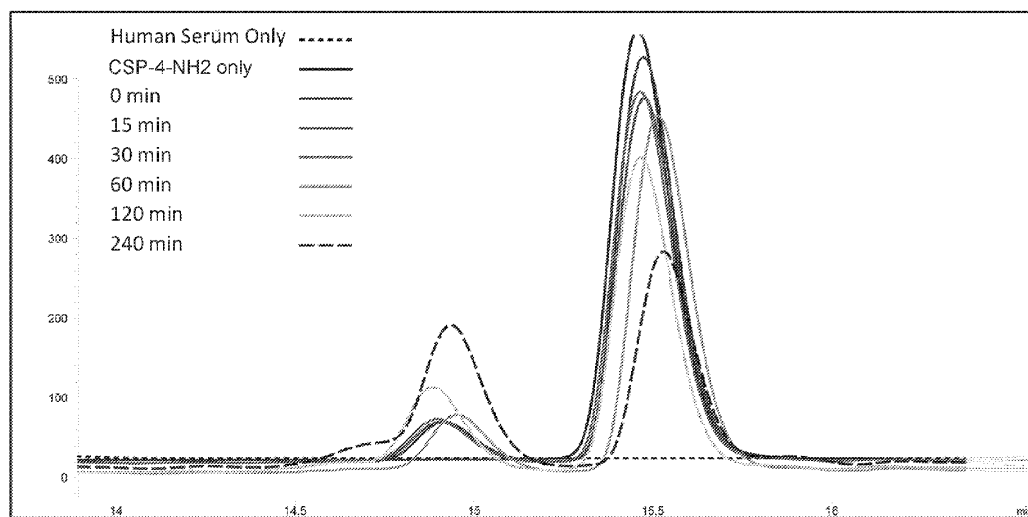


FIG. 1A

(57) Abstract: Provided herein are alpha-conotoxin peptide analogs, including alpha-conotoxin peptide analogs that are covalently attached to polyethylene glycol (PEG), and pharmaceutical compositions of such alpha-conotoxin peptide analogs. Also provided herein are methods of treating or preventing a condition conducive to treatment or prevention by inhibition of an $\alpha 9$ -containing nicotinic acetylcholine receptor (nAChR) (e.g., the $\alpha 9\alpha 10$ subtype of the nAChR) in a subject.

[Continued on next page]

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))*
- *with sequence listing part of description (Rule 5.2(a))*
- *with information concerning authorization of rectification
of an obvious mistake under Rule 91.3 (b) (Rule 48.2(i))*

(48) Date of publication of this corrected version:

19 November 2020 (19.11.2020)

(15) Information about Correction:

see Notice of 19 November 2020 (19.11.2020)