

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
05 October 2023 (05.10.2023)



(10) International Publication Number
WO 2023/187561 A1

(51) International Patent Classification:

C07D 311/16 (2006.01) *A61K 31/4025* (2006.01)
A61K 31/37 (2006.01) *A61P 35/00* (2006.01)
A61K 31/453 (2006.01) *C07D 405/12* (2006.01)

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.

(21) International Application Number:

PCT/IB2023/052886

(22) International Filing Date:

23 March 2023 (23.03.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/325,360 30 March 2022 (30.03.2022) US

(71) Applicant: **LUNELLA BIOTECH, INC.** [CA/CA]; 145 Richmond Road, Ottawa, Ontario K1Z 1A1 (CA).

(72) Inventors: **LISANTI, Michael P.**; 842 Wilmslow Road, Flat 27, Philip Godlee Lodge, Didsbury Village, Greater Manchester M20 2DS (GB). **SOTGIA, Federica**; 842 Wilmslow Road, Flat 27, Philip Godlee Lodge, Didsbury Village, Greater Manchester M20 2DS (GB). **KAN-GASMETSA, Jussi**; 119 Clay Farm Drive, Cambridge CB2 9BX (GB). **DI PISA, Filippo**; 43 Greenwood Terrace, Sanford M5 3GH (GB).

(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, MG, MK, MN, MU, MW, MX, MY, MZ, NA,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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).

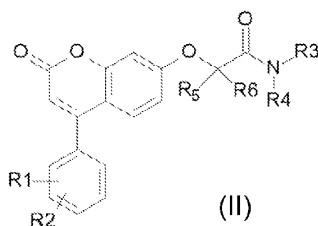
Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE

(54) Title: 2-[(2-Oxo-4-phenyl-2H-chromen-7-yl)oxy]propanamido derivatives



(57) Abstract: Disclosed are 2-[(2-Oxo-4-phenyl-2H-chromen-7-yl)oxy]propanamido derivatives, wherein at least one of R1 to R4 bears an amido group. These derivatives may be used to target and eliminate cancer stem cells, and may be used as therapeutic agents for the treatment of cancer, including reducing the likelihood of and/or preventing tumor recurrence and metastasis. The compounds disclosed herein have demonstrated inhibition of tumorsphere forming capacity, migration and stemness-related signaling in cancer stem cells. These properties result from selective inhibiting of mitochondrial transcription targeting mitochondrial RNA polymerase (POLRMT) in cancer cells. Formula (II)

WO 2023/187561 A1