

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 August 2024 (15.08.2024)



(10) International Publication Number
WO 2024/168209 A3

(51) International Patent Classification:

C07C 233/07 (2006.01) C07D 271/12 (2006.01)
A61K 8/42 (2006.01) C07D 311/80 (2006.01)
A61K 47/51 (2017.01) A61P 35/00 (2006.01)
C07C 233/06 (2006.01)

(21) International Application Number:

PCT/US2024/015099

(22) International Filing Date:

09 February 2024 (09.02.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/484,312 10 February 2023 (10.02.2023) US

(71) Applicant: **VANDERBILT UNIVERSITY** [US/US]; 305
Kirkland Hall, 2201 West End Avenue, Nashville, Ten-
nessee 37240 (US).

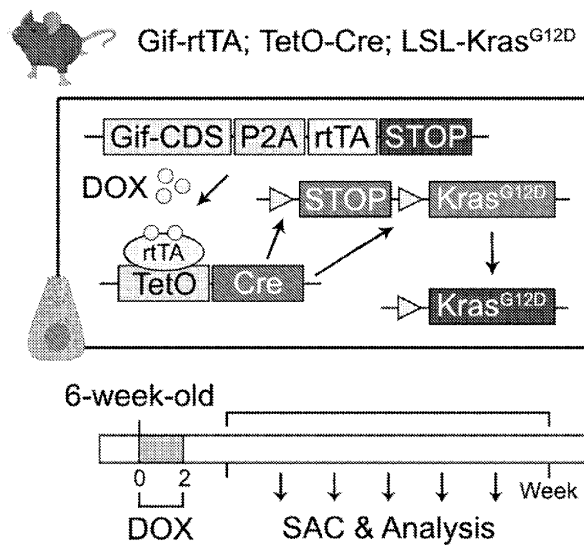
(72) Inventor: **CHOI, Eunyoung**; c/o Vanderbilt University,
305 Kirkland Hall, 2201 West End Avenue, Nashville, Ten-
nessee 37240 (US).

(74) Agent: **BRANDT, Anthony C.** et al.; Michael Best &
Friedrich LLP, 790 N. Water Street, Suite 2500, Milwaukee,
Wisconsin 53202 (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, MG, MK, MN, MU, 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.

(54) Title: CONJUGATED METABOLITES FOR CANCER DETECTION AND TREATMENT

FIG. 1



(57) Abstract: Disclosed herein are compounds, research tools, and methods for detecting and treating epithelial cell dysplasia, precancer, and cancer in a cell or a subject. Also disclosed herein are compounds, research tools, and methods for inhibiting a dysplastic cell, inhibiting the transition of a metaplastic cell to a dysplastic cell, and reducing the incidence of carcinoma in a cell or a subject. In some embodiments, the compounds, research tools, and methods comprise an eicosenoic acid conjugate compound. In some embodiments, the compounds, research tools, and methods comprise a therapy comprising an SCD1 enzyme inhibitor.

[Continued on next page]

(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).

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(88) Date of publication of the international search report:

24 October 2024 (24.10.2024)