

- (51) International Patent Classification:
C12N 15/09 (2006.01) C12N 15/85 (2006.01)

(21) International Application Number:
PCT/EP2024/060455

(22) International Filing Date:
17 April 2024 (17.04.2024)

(25) Filing Language:
English

(26) Publication Language:
English

(30) Priority Data:
2305637.7 17 April 2023 (17.04.2023) GB

(71) Applicant: **MACOMICS LIMITED** [GB/GB]; 137a George Street, Edinburgh Lothian EH2 4JY (GB).

(72) Inventors: **CASSETTA, Luca**; Macomics Limited, The University of Edinburgh, Campus Service Centre, Roslin Innovation Centre, Easter Bush Campus, Bush Farm Road, Roslin Lothian EH25 9RG (GB). **LOPEZ-YRIGOYEN, Martha**; Macomics Limited, The University of Edinburgh, Campus Service Centre, Roslin Innovation Centre, Easter Bush Campus, Bush Farm Road, Roslin Lothian EH25 9RG (GB). **WICHER, Krzysztof B.**; Macomics Limited, Unit 181, Cambridge Science Park, Milton Road, Cambridge Cambridgeshire CB4 0GJ (GB).

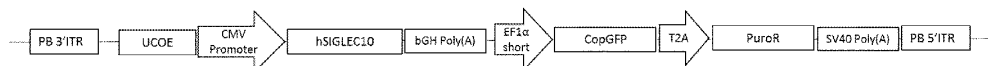
(74) Agent: **BATES, Rosica**; Brunswick IP Limited, 6 Brunswick Cottages, Midsummer Common, Cambridge Cambridgeshire CB5 8DL (GB).

(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, 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, 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))

(54) Title: TRANSPOSONS, VECTORS AND GENETICALLY ENGINEERED CELLS

Figure 1



(57) Abstract: A transposon comprising a Ubiquitous Chromatin Opening Element (UCOE) nucleic acid sequence, and a nucleic acid sequence of a gene of interest or a fragment thereof and optionally a 3' polyadenylation sequence under control of a promoter, flanked by Piggybac™ transposon-specific inverted terminal repeat sequences PB 5' ITR and PB 3' ITR.