

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
09 May 2019 (09.05.2019)



(10) International Publication Number
WO 2019/088852 A1

- (51) International Patent Classification:
G01N 33/74 (2006.01) *C12Q 1/6897* (2018.01)
- (21) International Application Number:
PCT/NZ2018/050154
- (22) International Filing Date:
02 November 2018 (02.11.2018)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/581,260 03 November 2017 (03.11.2017) US
62/614,680 08 January 2018 (08.01.2018) US
745713 27 August 2018 (27.08.2018) NZ
- (72) Inventors; and
- (71) Applicants: **HEATHER, Alison Kay** [AU/NZ]; 5 Meuse Lane, Andersons Bay, 9013 Dunedin (NZ). **SOWERBY,**

Stephen John [NZ/NZ]; 95 Green Island Bush Road, Blackhead, 9076 Dunedin (NZ).

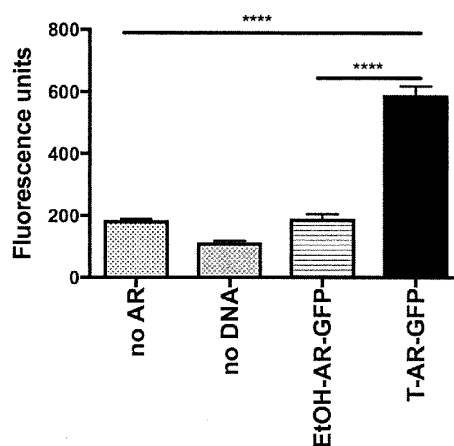
(74) Agent: **CATALYST INTELLECTUAL PROPERTY**; Level 5, 45 Johnston Street, 6011 Wellington (NZ).

(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,

(54) Title: TEST KITS AND ASSAYS

FIGURE 3



(57) Abstract: The present invention provides in vitro test kits, assays and methods useful for screening a test sample for the presence of a ligand which is characterized by its ability to form a complex with a steroid hormone receptor and elicit a genomic response when in a cell. Advantageously, the activity-based assays which form the basis of the test kits and methods described herein, are particularly useful in detecting the presence of a ligand of unknown structure, for example, a designer drug used by equine, canine and human athletes in sports doping. Different assay prototypes are disclosed in which activation of the hormone receptor by a ligand binding interaction may be detected, for example, through activation of a reporter molecule. In certain examples, the present invention provides test kits, assays and methods involving aptamer: fluorophore reporter constructs for detection of a ligand from (e.g.) a sample taken trackside from an athlete.

[Continued on next page]

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*