(A1)

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

G00002

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
6 June 2002 (06.06.2002)

PCT

(10) International Publication Number
WO 02/44422 A2

(51) International Patent Classification[7]: C12Q 1/68, C12N 5/10, A01K 67/027

(21) International Application Number: PCT/US01/44929

(22) International Filing Date:
30 November 2001 (30.11.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/250,706 1 December 2000 (01.12.2000) US

(71) Applicants *(for all designated States except US)*: **UNIVERSITY OF NORTH CAROLINA - CHAPEL HILL** [US/US]; 308 Bynum Hall, Campus Box 4105, Chapel Hill, NC 27599-4105 (US) **THE UNIVERSITY OF TENNESSEE RESEARCH CORPORATION** [US/US], 1534 White Avenue, Suite 403, Knoxville, TN 37996-1527 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **THREADGILL, David, W.** [US/US], 1503 Arboretum Drive, Chapel Hill, NC 27514 (US). **WILLIAMS, Robert, W.** [US/US]; 721 Eaton Street, Memphis, TN 38120 (US)

(74) Agent: **TAYLOR, Arles, A., Jr.**, Jenkins & Wilson, P.A., Suite 1400, University Tower, 3100 Tower Boulevard, Durham, NC 27707 (US)

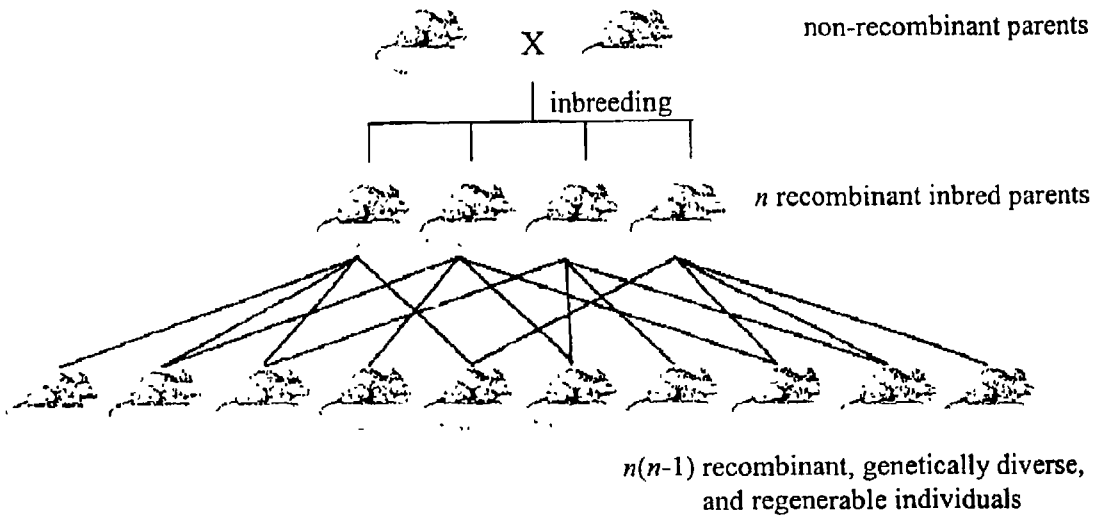
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

[Continued on next page]

162162

(54) Title: METHOD FOR ULTRA-HIGH RESOLUTION MAPPING OF GENES AND DETERMINATION OF GENETIC NETWORKS AMONG GENES UNDERLYING PHENOTYPIC TRAITS



(57) Abstract: A novel population for genetic mapping, methods for generating the disclosed population, and methods for using the disclosed population for efficient identification of genetic loci that modulate a phenotype. Also provided are methods for identifying interactions between genetic loci and non-genetic factors that modulate a phenotype. Further provided are methods for defining epistatic relationships among genes, gene networks and non-genetic factors.

WO 02/44422 A2

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette