PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C12N 15/82, 15/10 — A2

(11) International Publication Number: WO 00/09727

(43) International Publication Date: 24 February 2000 (24.02.00)

(21) International Application Number: PCT/US99/18394

(22) International Filing Date: 12 August 1999 (12.08.99)

(30) Priority Data:

60/096,288	12 August 1998 (12.08.98)	US
60/111,146	7 December 1998 (07.12.98)	US
60/112,746	17 December 1998 (17.12.98)	US

(71) Applicant: MAXYGEN, INC. [US/US]; 515 Galveston Drive, Redwood City, CA 94063 (US).

(72) Inventors: SUBRAMANIAN, Venkitswaran; 3980 Corte Mar De Hierba, San Diego, CA 94063 (US). STEMMER, Willem, P., C.; 108 Kathy Court, Los Gatos, CA 95030 (US). CASTLE, Linda, A.; 784 Hans Avenue, Mountain View, CA 94040 (US). MUCHHAL, Umesh, S.; Apartment 189, 1600 Villa Street, Mountain View, CA 94041 (US). SIEHL, Daniel, L.; 310 Durham Street, Menlo Park, CA 94025 (US).

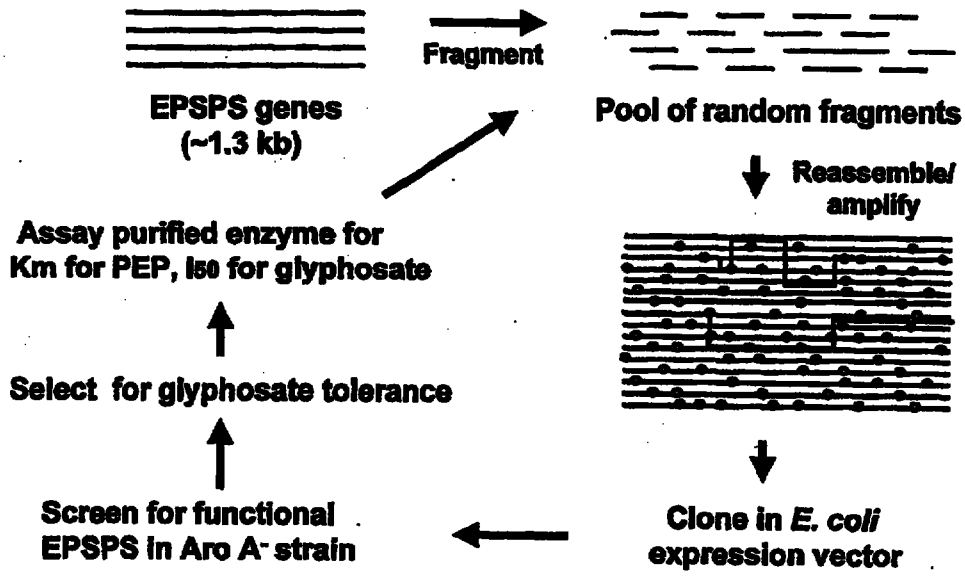
(74) Agents: PETITHORY, Joanne, R.; Maxygen, Inc., 515 Galveston Drive, Redwood City, CA 94063 (US) et al.

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, 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, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: DNA SHUFFLING TO PRODUCE HERBICIDE SELECTIVE CROPS



(57) Abstract

Methods of shuffling DNA to obtain recombinant herbicide tolerance nucleic acids encoding proteins having new or improved herbicide tolerance activities, libraries of shuffled herbicide tolerance nucleic acids, transgenic plants and DNA shuffling mixtures are provided.