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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 June 2003 (12.06.2003)

PCT

(10) International Publication Number
WO 03/048306 A2

(51) International Patent Classification[7]: C12N

(21) International Application Number: PCT/US02/36856

(22) International Filing Date:
18 November 2002 (18.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/331,481 16 November 2001 (16.11.2001) US
60/400,687 5 August 2002 (05.08.2002) US

(71) Applicant *(for all designated States except US)*: **IDEC PHARMACEUTICALS CORPORATION** [US/US]; 3030 Callan Road, San Diego, CA 92121 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **REFF, Mitchell** [US/US]; 4166 Combe Way, San Diego, CA 92122 (US). **BARNETT, Richard** [US/US]; 306 Belmont Court, San Marcos, CA 92069 (US).

(74) Agents: **TESKIN, Robin, L.** et al.; Pillsbury Winthrop LLP, 1600 Tysons Boulevard, McLean, VA 22102 (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, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, 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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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.

WO 03/048306 A2

(54) Title: POLYCISTRONIC EXPRESSION OF ANTIBODIES

(57) Abstract: Described herein is a novel expression system for producing multiple gene products of interest from a single polycistronic construct. In particular, the expression system contains a polycistronic vector capable of expressing functional antibodies in eukaryotic host cells, which vector contains at least the following elements operably linked in the 5' to 3' orientation: a promoter operable in a eukaryotic cell; a DNA sequence encoding at least the variable region of an antibody light chain; an internal ribosome entry site (IRES); and at least one DNA sequence encoding an antibody heavy chain. Also disclosed are mammalian cells containing the polycistronic expression vector, and a method of producing functional antibodies in mammalian cells transfected with the polycistronic expression vector.