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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations 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, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, 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, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
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(54) Title: METHODS OF MAKING HYPERMUTABLE CELLS USING PMSR HOMOLOGS

(57) Abstract: Methods of making cells hypermutable are disclosed using PMS2 homologs that have a common sequence motif. The PMS2 homologs of the invention have ATPase-like motifs and are at least about 90% identical to PMS2-134. Methods of generating mutant libraries and using the PMS2 homologs in diagnostic and therapeutic applications for cancer are also disclosed.

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B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/7.1, 441, 455, 466, 467; 436/64, 501; 514/2, 44 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) USPTO Sequence Databases; Medline, Cancerlit, Biosis, Lifesci, Biotechds, Scisearch, HCaplus		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01/88192 A2 (THE JOHNS HOPKINS UNIVERSITY) 22 November 2001 (22.11.2001), especially page 2, lines 20-29, page 3, lines 4-32, page 5, lines 5-7, page 6, lines 6-8 and 22-32 and page 12, lines 4-9.	1, 2, 4-33
Y	WO 01/64864 A2 (MAXYGEN, INC.) 07 September 2001 (07.09.2001), especially page 30, line 32 and page 32, lines 21-25.	26-33
Y	NICOLAIDES et al. A Naturally Occurring hPMS2 Mutation Can Confer a Dominant Negative Mutator Phenotype. Molecular and Cellular Biology. March 1998, Vol. 18, No. 3, pages 1635-1641, especially pages 1640-1641, bridging paragraph.	1, 2, 4-33
Y	Database Medline on STN, ACS (Columbus, OH, USA), Accession No. 96160364 LIU et al. "Analysis of mismatch repair genes in hereditary non-polyposis colorectal cancer patients". Abstract, Nature Medicine, February 1996, Vol. 2, pages 169-174.	30-34
Y	NICOLAIDES et al. Genomic Organization of the Human PMS2 Gene Family. Genomics. November 1995, Vol. 20, pages 195-206, see entire document.	1, 2, 4-33
Y	Database SPTREMBL on Gencore, Compugen, Accession No. Q13670, 01 November 1996.	1, 2, 4-33
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