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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.

(54) Title: METHODS OF PREDICTING MORTALITY RISK BY DETERMINING TELOMERE LENGTH

(57) Abstract: The present invention provides for methods of determining telomere length of an organism and correlating the measured telomere length with mortality risk associated with telomere length in a population. The presence of shorter telomeres is associated with an increased mortality rate and increased susceptibility to certain types of diseases for an individual member of a human population.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/02215

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : C12Q 1/68; C12P 19/34 US CL : 435/6, 91.1, 91.2 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/6, 91.1, 91.2 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) Please See Continuation Sheet		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	CHERIF et al. Ageing and telomeres: a study into organ- and gender-specific telomere shortening. Nucleic Acids Research. February 2003, Vol. 31, No. 5, pages 1576-1583, especially pages 1576; 1577, 2nd column, 2nd paragraph, 4th and 5th paragraph; page 1578, 1st column, 2nd paragraph; Figures 2-4.	1, 3, 8-10, and 13
X	BRUMMENDORF et al. Telomere length in leukocyte subpopulations of patients with aplastic anemia. Blood. 15 February 2001, Vol. 97, No. 4, pages 895-900, especially page 895, 2nd column, 2nd paragraph; page 896, 1st column, 4th paragraph; 2nd column, 4th paragraph; page 897, 1st column, 2nd paragraph; Figures 3 and 4; page 898, 1st column, 2nd paragraph.	1-6 and 8-13
X	US 5,489,508 A (WEST et al.) 06 February 1996 (06.02.1996), column 16, lines 1-19; Figures 5-7; column 14, lines 26-38; Figure 8, column 14, lines 39-46.	1-6 and 8-13
A	AUSTRIACO, JR. et al. Changes of telomere length cause reciprocal changes in the lifespan of mother cells in Saccharomyces cerevisiae. PNAS. September 1997, Vol. 94, pages 9768-9772, entire document.	1-6 and 8-13
A	US 5,856,096 a (WINDLE et al.) 05 January 1999 (05.01.1999), entire document.	1-6 and 8-13
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search		Date of mailing of the international search report
16 October 2004 (16.10.2004)		18 NOV 2004
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer Young J. Kim <i>J. Roberts for</i> Telephone No. (571) 272-1600

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/02215

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.: 7
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claim 7 is self dependent which is improper.
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/02215

Continuation of B. FIELDS SEARCHED Item 3:

Patent Database (USPT, USPGP, EPO, JPO, DERWENT, IBM-TDB)

NPL

Search terms: telomere length, mortality, aging, disease, average telomere length.