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(54) Title: MSMB-GENE METHYLATION BASED DIAGNOSIS, STAGING AND PROGNOSIS OF PROSTATE CANCER

(57) Abstract: This invention relates generally to a method of diagnosis for distinguishing between a benign prostate hyperplasia and a prostate cancer and between an hormone sensitive and an hormone refractory prostate cancer condition and specifically to identification of a hypermethylated (on CpG and non-CpG dinucleotides) CpG island in the beta- microseminoprotein (MSMB) regulatory regions surrounding the transcriptional start site of the MSMB gene as a diagnostic indicator of prostate cancer (PrCa) and for distinguishing androgen-refractory from androgen sensitive prostate cancer.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. C12Q1/68		
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) C12Q		
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 practical, search terms used) EPO-Internal, BIOSIS, EMBASE, Sequence Search, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BEKE L ET AL: "The gene encoding the prostatic tumor suppressor PSP94 is a target for repression by the Polycomb group protein EZH2" ONCOGENE, NATURE PUBLISHING GROUP, GB BASINGSTOKE, HANTS, [Online] vol. 26, no. 31, 1 July 2007 (2007-07-01), pages 4590-4595, XP002513955 ISSN: 0950-9232 Retrieved from the Internet: URL:10.1038/SJ.ONC.1210248> [retrieved on 2007-01-22] the whole document page 4591, column 1 - page 4595, column 3 figures 3,4 ----- -/--	1-41
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" 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 *E* earlier document but published on or after the international filing date *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) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed		
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 *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 *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. *&* document member of the same patent family		
Date of the actual completion of the international search 25 June 2009		Date of mailing of the international search report 23/07/2009
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Sauer, Tincuta

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 2005/007830 A (MAYO FOUNDATION [US]; VANAJA DONKENA K [US]; YOUNG CHARLES Y F [US]) 27 January 2005 (2005-01-27) the whole document page 3, lines 27-32 page 4, lines 5-25 page 8, lines 14-17 page 10, lines 19-26 page 17, lines 4,10,26 page 27, lines 1-28</p>	1-41
Y	<p>US 2005/021240 A1 (BERLIN KURT [DE] ET AL) 27 January 2005 (2005-01-27) the whole document paragraphs [0071] - [0076], [0135], [0221]</p>	1-41
Y	<p>LIU A Y ET AL: "Decreased expression of prostatic secretory protein PSP94 in prostate cancer" CANCER LETTERS, NEW YORK, NY, US, vol. 74, no. 1-2, 15 October 1993 (1993-10-15), pages 91-99, XP023163595 ISSN: 0304-3835 [retrieved on 1993-10-15] the whole document page 98, column 1, paragraph 2</p>	1-41

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2005007830 A	27-01-2005	NONE	
US 2005021240 A1	27-01-2005	US 2006136142 A1	22-06-2006