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(54) Title: ENZYMATIC DIAGNOSTIC TEST FOR SARS AND OTHER VIRAL DISEASES

(57) Abstract: The present invention is directed towards methods, compositions and kits for testing for a virus in a sample. The methods determine the presence of a viral enzyme by contacting the sample with a peptidal compound capable of being cleaved by the viral enzyme to form peptidal compound fragments. Detection of a peptidal compound fragment confirms the presence of the virus.

WO 2005/017191 A3

INTERNATIONAL SEARCH REPORT

Inte application No
PCT/US2004/019897

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12Q1/37</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>														
<p>B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12Q</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, MEDLINE, EMBASE, WPI Data, PAJ</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category °</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 4 952 493 A (KETTNER ET AL) 28 August 1990 (1990-08-28)</td> <td>1-11, 14-20, 23-25</td> </tr> <tr> <td>Y</td> <td>column 1, line 11 - line 15 column 2, line 55 - column 4, line 56 column 12, line 4 - line 22</td> <td>12,21</td> </tr> <tr> <td>A</td> <td>KSIAZEK T G ET AL: "A novel coronavirus associated with severe acute respiratory syndrome" NEW ENGLAND JOURNAL OF MEDICINE, MASSACHUSETTS MEDICAL SOCIETY, BOSTON, MA, US, vol. 348, no. 20, 15 May 2003 (2003-05-15), pages 1953-1966, XP002276003 ISSN: 1533-4406 the whole document</td> <td></td> </tr> </tbody> </table>			Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 4 952 493 A (KETTNER ET AL) 28 August 1990 (1990-08-28)	1-11, 14-20, 23-25	Y	column 1, line 11 - line 15 column 2, line 55 - column 4, line 56 column 12, line 4 - line 22	12,21	A	KSIAZEK T G ET AL: "A novel coronavirus associated with severe acute respiratory syndrome" NEW ENGLAND JOURNAL OF MEDICINE, MASSACHUSETTS MEDICAL SOCIETY, BOSTON, MA, US, vol. 348, no. 20, 15 May 2003 (2003-05-15), pages 1953-1966, XP002276003 ISSN: 1533-4406 the whole document	
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<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>														
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<p>Date of the actual completion of the international search 8 April 2005</p>		<p>Date of mailing of the international search report 18-07-2005</p>												
<p>Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016</p>		<p>Authorized officer Sitch, W</p>												

INTERNATIONAL SEARCH REPORT

Interr ication No
PCT/US2004/019897

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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Y	ANAND KANCHAN ET AL: "Coronavirus main proteinase (3CLpro) structure: Basis for design of anti-SARS drugs" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 300, no. 5626, 13 June 2003 (2003-06-13), pages 1763-1767, XP002291115 ISSN: 0036-8075 page 1763, column 2, paragraph 2 - column 3, paragraph 2 page 1764; figure 1B page 1766, column 3, paragraph 2 -----	12,21
A	US 6 127 139 A (TE KOPPELE ET AL) 3 October 2000 (2000-10-03) -----	
A	US 4 748 116 A (SIMONSSON ET AL) 31 May 1988 (1988-05-31) -----	
A	ROTA P A ET AL: "Characterization of a novel coronavirus associated with severe acute respiratory syndrome" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 300, no. 5624, 30 May 2003 (2003-05-30), pages 1394-1399, XP002269482 ISSN: 0036-8075 page 1394, right-hand column, paragraph 4 page 1396, right-hand column, last paragraph - page 1397, left-hand column, paragraph 1 -----	12,21
A	MARRA M A ET AL: "The genome sequence of the SARS-associated coronavirus" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 300, no. 5624, 30 May 2003 (2003-05-30), pages 1399-1404, XP002269483 ISSN: 0036-8075 the whole document -----	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/019897

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material
 - in written format
 - in computer readable form
 - c. time of filing/furnishing
 - contained in the international application as filed
 - filed together with the international application in computer readable form
 - furnished subsequently to this Authority for the purpose of search
2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

Int: Application No
PCT/US2004/019897

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4952493	A	28-08-1990	CA 1293591 C	24-12-1991
			DK 11386 A	12-07-1986
			EP 0187721 A2	16-07-1986
			GR 860061 A1	12-05-1986
			JP 61172897 A	04-08-1986

US 6127139	A	03-10-2000	DE 69725901 D1	04-12-2003
			DE 69725901 T2	09-09-2004
			EP 1019528 A1	19-07-2000
			JP 2000503533 T	28-03-2000
			WO 9725437 A1	17-07-1997

US 4748116	A	31-05-1988	AT 8130 T	15-07-1984
			DE 3164437 D1	02-08-1984
			EP 0046742 A1	03-03-1982
			JP 57501234 T	15-07-1982
			WO 8200641 A1	04-03-1982
			SU 1233806 A3	23-05-1986
