



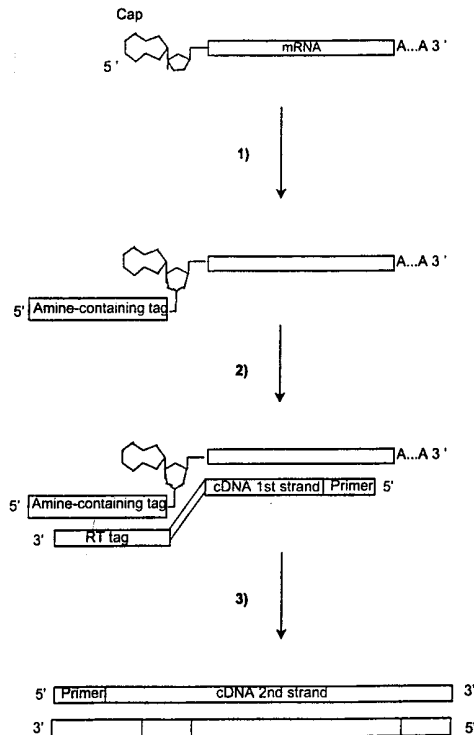
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>C12N 15/11, 15/10, C07K 14/47, C12P 21/00, C12Q 1/68, C07K 16/18, G06F 17/30, 17/50</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/53051</b> (43) International Publication Date: 21 October 1999 (21.10.99)</p>
<p>(21) International Application Number: PCT/IB99/00712 (22) International Filing Date: 9 April 1999 (09.04.99) (30) Priority Data: 09/057,719 9 April 1998 (09.04.98) US 09/069,047 28 April 1998 (28.04.98) US (71) Applicant (for all designated States except US): GENSET [FR/FR]; 24, rue Royale, F-75008 Paris (FR). (72) Inventors; and (75) Inventors/Applicants (for US only): DUMAS MILNE EDWARDS, Jean-Baptiste [FR/FR]; 8, rue Grégoire-de-Tours, F-75006 Paris (FR). DUCLERT, Aymeric [FR/FR]; 6 ter, rue Victorine, F-94100 Saint-Maur (FR). GIORDANO, Jean-Yves [FR/FR]; 12, rue Duhesme, F-75018 Paris (FR). (74) Agents: MARTIN, Jean-Jacques et al.; Cabinet Regimbeau, 26, avenue Kléber, F-75116 Paris (FR).</p>	<p>(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report.</i> (88) Date of publication of the international search report: 6 April 2000 (06.04.00)</p>	

(54) Title: 5' ESTS AND ENCODED HUMAN PROTEINS

(57) Abstract

The sequences of 5' ESTs derived from mRNAs encoding secreted proteins are disclosed. The 5' ESTs may be to obtain cDNAs and genomic DNAs corresponding to the 5' ESTs. The 5' ESTs may also be used in diagnostic, forensic, gene therapy, and chromosome mapping procedures. Upstream regulatory sequences may also be obtained using the 5' ESTs. The 5' ESTs may also be used to design expression vectors and secretion vectors.



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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 99/00712

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 6 C12N15/11 C12N15/10 C07K14/47 C12P21/00 C12Q1/68 C07K16/18 G06F17/30 G06F17/50		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 6 C12N C07K		
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)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BRENNER ET AL.: "Homo sapiens Xq28 genomic DNA in the region of the L1CAM locus ...." EMBL SEQUENCE DATABASE, 9 May 1996 (1996-05-09), XP002121588 HEIDELBERG DE	1,2
Y	Ac U52112 the whole document & BRENNER ET AL.: "Genomic organization of two novel genes on human Xq28: compact head to head arrangement of IDH gamma and TRAP delta is conserved in rat and mouse" GENOMICS, vol. 44, no. 1, 1997, pages 8-14, --- -/--	4-21
<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.		
° 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  <p style="text-align: center;">4 November 1999</p>	Date of mailing of the international search report  <p style="text-align: center;">28. JAN. 2000</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	Authorized officer  <p style="text-align: center;">CEDER O.</p>	

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 99/00712

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>SAKAI ET AL.: "Protein kinase C substrate, 80 kD protein, heavy chain (PKCSH)"            SWISSPROT SEQUENCE DATA BASE,            1 January 1990 (1990-01-01), XP002121589            HEIDELBERG DE            Ac P14314            the whole document            -&amp; SAKAI ET AL.: "Human 80K-H protein (kinase C substrate) mRNA, complete compound"            EMBL SEQUENCE DATABASE,            1 February 1990 (1990-02-01), XP002121590            HEIDELBERG DE            Ac J03075            the whole document            &amp; SAKAI ET AL.: "Isolation of cDNAs encoding a substrate for protein kinase C: nucleotide sequence and chromosomal mapping of the gene for a human 80K protein"            GENOMICS,            vol. 5, 1989, pages 309-315,            ---</p>	3
Y	<p>WO 96 34981 A (GENSET ;MERENKOVA IRENA NICOLAEVNA (FR); DUMAS MILNE EDWARDS JEAN)            7 November 1996 (1996-11-07)            cited in the application            page 13, line 24 -page 14, line 14; claim 26            ---</p>	4
Y	<p>GREENWOOD M T ET AL: "Cloning of the gene encoding human somatostatin receptor 2: sequence analysis of the 5'-flanking promoter region"            GENE,            vol. 159, no. 2, 4 July 1995 (1995-07-04),            page 291-292 XP004042228            ISSN: 0378-1119            abstract            ---</p>	5
Y	<p>KATO S ET AL: "Construction of a human full-length cDNA bank"            GENE,            vol. 150, 1 January 1994 (1994-01-01),            pages 243-250, XP002081364            ISSN: 0378-1119            cited in the application            abstract            page 245, left-hand column            ---            -/--</p>	6,10

## INTERNATIONAL SEARCH REPORT

Intern. Application No

PCT/IB 99/00712

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97 38003 A (HUMAN GENOME SCIENCES INC ;LI HAODONG (US); WEI YING FEI (US)) 16 October 1997 (1997-10-16)	7,11,20, 21
A	seq Id No 2 claims 10-12	3
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Y	--- WO 98 07830 A (INST GENOMIC RESEARCH ;UNIV PENNSYLVANIA (US); UNIV JOHNS HOPKINS) 26 February 1998 (1998-02-26) page 3, line 4 - line 28 page 31, line 6 -page 35, line 16	7,11-21
X	--- MUZNY ET AL.: "Homo sapiens, working draft sequence, 97 unordered pieces" EMBL SEQUENCE DATABASE, 3 February 1998 (1998-02-03), XP002121591 HEIDELBERG DE Ac AC004085 the whole document	1,2
X	--- ADAMS ET AL.: "EST177394 Jurkat T-cells VI homo sapiens cDNA 5' end similar to protein kinase C substrate 80K-H" EMBL SEQUENCE DATABASE, 18 April 1997 (1997-04-18), XP002121592 HEIDELBERG DE Ac AA306438 the whole document -& ADAMS ET AL.: "Initial assessment of human gene diversity and expression patterns based upon 83 million nucleotides of cDNA sequences" NATURE, vol. 377, 1995, pages 3-174, XP002069461	3
A	--- "zr94d07.r1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:683341 5' EST" EMBL SEQUENCE DATABASE, 5 February 1997 (1997-02-05), XP002121593 HEIDELBERG DE Ac AA215334 the whole document	1,2
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## INTERNATIONAL SEARCH REPORT

Internat Application No

PCT/IB 99/00712

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ADAMS M D ET AL: "RAPID CDNA SEQUENCING (EXPRESSED SEQUENCE TAGS) FROM A DIRECTIONALLY CLONED HUMAN INFANT BRAIN CDNA LIBRARY" NATURE GENETICS, vol. 4, no. 4, 1 August 1993 (1993-08-01), pages 373-380, STANDARD, XP002064427 ISSN: 1061-4036</p> <p style="text-align: center;">---</p>	
A	<p>ADAMS M D ET AL: "3,400 NEW EXPRESSED SEQUENCE TAGS IDENTIFY DIVERSITY OF TRANSCRIPTS IN HUMAN BRAIN" NATURE GENETICS, vol. 4, no. 3, 1 July 1993 (1993-07-01), pages 256-267, XP000645060 ISSN: 1061-4036</p> <p style="text-align: center;">---</p>	
A	<p>TASHIRO K ET AL: "SIGNAL SEQUENCE TRAP: A CLONING STRATEGY FOR SECRETED PROTEINS AND TYPE I MEMBRANE PROTEINS" SCIENCE, vol. 261, 30 July 1993 (1993-07-30), pages 600-603, XP000673204 ISSN: 0036-8075</p> <p style="text-align: center;">---</p>	
A	<p>CARNINCI P ET AL: "High-efficiency full-length cDNA cloning by biotinylated CAP trapper" GENOMICS, vol. 37, no. 3, 1 November 1996 (1996-11-01), pages 327-336, XP002081729 ISSN: 0888-7543</p> <p style="text-align: center;">-----</p>	

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 99/00712

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 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:  
Rule 39.1(v) PCT - Presentation of information  
Although claim 12 could be considered as a mere presentation of information, Rule 39.1(v) PCT, the search has been carried out as far as possible in our systematic documentation.
2.  Claims Nos.:  
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:
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 II Observations where unity of invention is lacking (Continuation of item 2 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.:

Invention 1: 1-21 partially

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box I.1

Although claim 12 could be considered as a mere presentation of information, Rule 39.1(v) PCT, the search has been carried out as far as possible in our systematic documentation.

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Continuation of Box I.1

Rule 39.1(v) PCT - Presentation of information

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 1. Claims: Invention 1: 1-21 all partially

Nucleic acid comprising a sequence as in Seq.ID.No. 24, complementary sequence and fragments thereof. Polypeptide, Seq.Id.No. 812, encoded by said nucleotide sequence. Vector comprising Seq.Id.No. 24 and host cell comprising the vector. Methods of making cDNA and polypeptide utilising Seq.Id.No. 24. Array of ESTs comprising Seq.Id.No. 24, or a fragment thereof. An antibody binding to an epitop of the polypeptide of Seq.Id.No. 812. A computer readable medium and a computer system storing and/or utilising the sequence of Seq.Id.No. 24 or 812.

## 2. Claims: Invention 2-811 : 1-21 all partially

Idem as subject 1 but limited to each of the DNA sequences as in Seq.Id.No. 25-811 and 1600-1622, and corresponding polypeptides when applicable, where invention 2 is limited to Seq.Id.No. 25 and 813, invention 3 is limited to Seq.Id.No. 26 and 814, ....., invention 788 is limited to Seq.Id.No. 811 and 1599, invention 789 is limited to Seq.Id.No. 1600, invention 790 is limited to Seq.Id.No. 1601, ....., invention 811 is limited to Seq.Id.No. 1622.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 99/00712

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9634981     A	07-11-1996	FR 2733765 A	08-11-1996
		FR 2733762 A	08-11-1996
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WO 9807830     A	26-02-1998	NONE	