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(54) **Identification and molecular characterisation of proteins, expressed in the tick salivary glands**

(57) The invention relates to the molecular characterisation of DNA sequences which encode proteins expressed in the salivary glands of ticks, more particularly the *Ixodes ricinus* arthropod tick. Genes which are induced in the salivary glands of *Ixodes ricinus* during the slow-feeding phase of the blood meal were characterized. The cloning of these genes was carried out by setting up a subtractive cDNA library by subtracting uninduced cDNAs (synthesised from mRNAs expressed in

the salivary glands of unfed ticks) from induced cDNAs (synthesised from mRNAs expressed in the salivary glands at the end of the slow-feeding phase). A full-length cDNA library was set up starting from incomplete sequences deemed of interest and identified in the subtractive cDNA library. Also included in the invention are the various uses of the newly identified polynucleotides and derived polypeptides.

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EUROPEAN SEARCH REPORT

Application Number
EP 07 10 9568

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
T	LEBOULLE GERARD ET AL: "Isolation of Ixodes ricinus salivary gland mRNA encoding factors induced during blood feeding" AMERICAN JOURNAL OF TROPICAL MEDICINE & HYGIENE, AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, US, vol. 66, no. 3, 1 March 2002 (2002-03-01), pages 225-233, XP002314131 ISSN: 0002-9637 * the whole document * -----	1-23	INV. C12N15/12 C07K14/435 A61K38/17 G01N33/50 C12Q1/68 C07K16/18 C12N5/20
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T	& LEBOULLE GERARD ET AL: "Isolation of Ixodes ricinus salivary gland mRNA encoding factors induced during blood feeding" AMERICAN JOURNAL OF TROPICAL MEDICINE & HYGIENE, AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, US, vol. 66, no. 3, 1 March 2002 (2002-03-01), pages 225-233, * the whole document * ----- -/--	1-23	TECHNICAL FIELDS SEARCHED (IPC) C12N C07K A61K G01N C12Q
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 April 2009	Examiner Hornig, Horst
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EUROPEAN SEARCH REPORT

Application Number
EP 07 10 9568

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	G R NEEDHAM ET AL: "Characterization of Ixodid Tick salivary-gland gene products, using recombinant DNA technology" EXPERIMENTAL AND APPLIED ACAROLOGY,GB,CHAPMAN & HALL, vol. 7, 1989, pages 21-32, XP002093753 ISSN: 0168-8162 * the whole document *		
A	BIOR ABDEL A D ET AL: "Differentially expressed genes in tick salivary glands." FASEB JOURNAL, vol. 13, no. 7, 23 April 1999 (1999-04-23), page A1368, XP000946819 Annual Meeting of the American Societies for Experimental Biology on Biochemistry and Molecular Biology 99;San Francisco, California, USA; May 16-20, 1999 ISSN: 0892-6638 * abstract *		TECHNICAL FIELDS SEARCHED (IPC)
A	LUO C ET AL: "Cloning and sequence of a gene for the homologue of the stearyl CoA desaturase from salivary glands of the tick Amblyomma americanum." INSECT MOLECULAR BIOLOGY, vol. 6, no. 3, 1997, pages 267-271, XP000952079 ISSN: 0962-1075 * abstract; figure 1 *		
A	WO 95/04750 A (ATHENA NEUROSCIENCES INC ;BARD FREDERIQUE (US); YEDNOCK THEODORE A) 16 February 1995 (1995-02-16) * the whole document *		
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 April 2009	Examiner Hornig, Horst
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 10 9568

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-04-2009

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		US 5811514 A	22-09-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	蛋白质的鉴定和分子表征，在蜱唾液腺中表达		
公开(公告)号	EP1892297A3	公开(公告)日	2009-06-10
申请号	EP2007109568	申请日	2000-06-06
[标]申请(专利权)人(译)	HENOGEN		
申请(专利权)人(译)	HENOGEN S.A.		
当前申请(专利权)人(译)	HENOGEN S.A.		
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发明人	GODFROID, EDMOND BOLLEN, ALEX LEBOULLE, GÉRARD		
IPC分类号	C12N15/12 C07K14/435 A61K38/17 G01N33/50 C12Q1/68 C07K16/18 C12N5/20 G01N33/53 A61K38/00 A61K39/00 A61K48/00 A61P7/02 A61P23/00 A61P29/00 A61P31/04 A61P31/12 A61P37/02 C12N1/15 C12N1/19 C12N1/21 C12N5/10 C12N15/09 G01N33/566		
CPC分类号	A61K38/00 A61K2121/00 A61P23/00 A61P29/00 C07K14/43527 Y02A50/401 Y10S435/975		
优先权	1999013425 1999-06-09 GB		
其他公开文献	EP1892297A2 EP1892297B1		
外部链接	Espacenet		

摘要(译)

本发明涉及DNA序列的分子表征，所述DNA序列编码在蜱的唾液腺中表达的蛋白质，更特别是蓖麻节肢动物蜱 (Ixodes ricinus节肢动物蜱)。在血液的缓慢喂养阶段期间，在蓖麻毒素的唾液腺中诱导的基因被表征。这些基因的克隆是通过从诱导的cDNA中减去未诱导的cDNA (从未蜱的唾液腺中表达的mRNA合成) 建立一个减去的cDNA文库 (从慢速结束时在唾液腺中表达的mRNA合成) - 喂养阶段)。从感兴趣的不完整序列开始建立全长cDNA文库，并在消减cDNA文库中鉴定。本发明还包括新鉴定的多核苷酸和衍生多肽的各种用途。

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T	LEBOULLE GERARD ET AL: "Isolation of Ixodes ricinus salivary gland mRNA encoding factors induced during blood feeding" AMERICAN JOURNAL OF TROPICAL MEDICINE & HYGIENE, AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, US vol. 66, no. 3, 1 March 2002 (2002-03-01), pages 225-233, XP002314131 1538: the whole document =	1-23	INV. C12N15/12 C07K14/435 A61K38/17 G01N33/50 C12Q1/68 C07K16/18 C12N5/20
P, X	DATABASE EMBL [online] Hinton, UK 14 September 1999 (1999-09-14), G. LEBOULLE: "Ixodes ricinus partial mRNA from salivary gland subtracted cDNA library" XP002325138 Database accession no. AJ269641 =	1-15	TECHNICAL FIELDS SEARCHED (IPC): C12N C07K A61K G01N C12Q
T	& LEBOULLE GERARD ET AL: "Isolation of Ixodes ricinus salivary gland mRNA encoding factors induced during blood feeding" AMERICAN JOURNAL OF TROPICAL MEDICINE & HYGIENE, AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, US vol. 66, no. 3, 1 March 2002 (2002-03-01), pages 225-233, the whole document =	1-23	
The present search report has been drawn up for all claims			
The Hague		Hornig, Horst	
24 April 2009			
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: document relevant if considered with another A: technical field not disclosed B: information disclosed I: theory or principle underlying the invention E: new starting point for modification, or after the filing date L: document cited for other reasons A: member of the same patent family, corresponding document			