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27 October 1994 (27.10.94)

(54) Title: ALLERGENIC PROTEINS AND PEPTIDES FROM DOG DANDER AND USES THEREFOR

(57) Abstract

Isolated nucleic acids encoding allergens of *Canis familiaris*, Can f I or Can f II, are disclosed. A cDNA encoding a peptide having a Can f I activity and a predicted molecular weight of about 19,200 daltons is also described. A cDNA encoding a peptide having Can f II activity and a predicted molecular weight of about 18,200 daltons is also disclosed. The nucleic acids can be used as probes to detect the presence of Can f or Can f II nucleic acid in a sample or for the recombinant production of peptides having a Can f I or Can f II activity. Peptides having a Can f I or Can f II activity can be used in compositions suitable for pharmaceutical administration or methods of diagnosing sensitivity to dog dander.

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INTERNATIONAL SEARCH REPORT

Inter. nal Application No
PCT/US 93/12468

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 C12N15/12 C12N5/10 C12P21/00 C07K15/06 C07K7/04
A61K39/35 C12P21/08

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)
IPC 5 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	J. ALLERGY CLIN. IMMUNOL., vol.87, 1991 pages 1056 - 1065 H. DE GROOT ET AL.; 'Affinity purification of a major and a minor allergen from dog extract: serologic activity of affinity-purified Can fI and of Can fI-depleted extract' cited in the application	41-47, 63,73, 74,79-82
Y	*abstract; materials and methods; discussion*	1,2, 7-13,25, 26,31, 32,39, 65,71
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[X] Further documents are listed in the continuation of box C. [ ] 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
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"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.
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Date of the actual completion of the international search	Date of mailing of the international search report
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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 Yeats, S

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CLIN. EXPER. ALLERGY, vol.22, 1992 pages 793 - 803 A.W. FORD AND D.M. KEMENY 'The allergens of dog II. Identification and partial purification of a major dander allergen' *abstract; introduction; discussion*	41-47, 63,73, 74,79,81
Y		1,2, 7-13,25, 26,31, 32,39, 65,71

X	CLIN, EXPER. ALLERGY, vol.21, 1991 pages 321 - 328 C. SCHOU ET AL.; 'Purification and characterization of the major dog allergen, Can fI' cited in the application *abstract; page 322; discussion*	41-47, 63,73, 74,79-82
Y		1,2, 7-13,25, 26,31, 32,39, 65,71

X	J. BIOL. CHEM., vol.267, 1992 pages 20282 - 20287 B. REDL ET AL.; 'cDNA cloning and sequencing reveals human tear prealbumin to be a member of the lipophilic-ligand carrier protein superfamily' *abstract; figure 3*	13

Y	GENE, vol.113, 1992 pages 263 - 268 I.J. GRIFFITH ET AL.; 'Expression and genomic structure of the genes encoding FdI, the major allergen from the domestic cat' *abstract*	1,2, 7-13,25, 26,31, 32,39

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US93/12468

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. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Remark : Although claims 71 and 72 are directed to a method of treatment of the human body, the search has been carried out and based on the alleged effects of the composition.

2. [ ] Claims Nos.:
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3. [ ] Claims Nos.:
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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:

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2. [ ] As all searchable claims could be searches without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

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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/US93/12468

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:

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:

see annnex

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 searches without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

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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.:

1-13, 25-27,31-34, 39, 41-47, 55-58, 63, 65-67, 71-74, 79-82, 87-90 and 95.

Remark on Protest

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

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

1- Claims 1-13,25-27,31-34,39,41-47,55-58,63,65-67,71-74,79-82,87-90,95 : nucleic acid encoding a dog dander Can fI allergen.

2- Claims 14-24,28-30, 35-38, 40, 48-54, 59-62, 64, 68-70, 75-78, 83-86, 91-94 : nucleic acid encoding a dog dander Can fII allergen.