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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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- with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

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(54) Title: ANTIBODIES THAT BIND BOTH IL-17A AND IL-17F AND METHODS OF USING THE SAME

(57) Abstract: The present invention relates to blocking, inhibiting, reducing, antagonizing or neutralizing the activity of IL-17A and IL-17F. IL-17A and IL-17F are cytokines that are involved in inflammatory processes and human disease. The present invention includes antibodies that bind both IL-17A and IL-17F, as well as methods of using the same in inflammation.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. C07K16/24				
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) 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) EPO-Internal, WPI Data, BIOSIS				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	WO 2005/010044 A (GENENTECH INC [US]; ARNOTT DAVID [US]; GURNEY AUSTIN [US]; HASS PHILIP) 3 February 2005 (2005-02-03) page 5, line 2 - line 20 page 9, line 2 - line 11 page 80, line 20 - page 92, line 6 page 94, line 25 - page 103, line 14 claims; examples <div style="text-align: center;"> ----- -/-- </div>	1-62		
<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 :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> *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 </td> <td style="width: 50%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> *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 </td> </tr> </table>			<ul style="list-style-type: none"> *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 	<ul style="list-style-type: none"> *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
<ul style="list-style-type: none"> *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 	<ul style="list-style-type: none"> *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 <div style="text-align: center; font-size: 1.2em;">4 January 2008</div>		Date of mailing of the international search report <div style="text-align: center; font-size: 1.2em;">25/01/2008</div>		
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 <div style="text-align: center; font-size: 1.2em;">Rankin, Robert</div>		

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/063787

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	RUTITZKY LAURA I ET AL: "Severe CD4 T cell-mediated immunopathology in murine schistosomiasis is dependent on IL-12p40 and correlates with high levels of IL-17." JOURNAL OF IMMUNOLOGY (BALTIMORE, MD. : 1950) 15 SEP 2005, vol. 175, no. 6, 15 September 2005 (2005-09-15), pages 3920-3926, XP002463525 ISSN: 0022-1767	1-62
P,X	WO 2006/088833 A (WYETH CORP [US]; CARRENO BEATRIZ M [US]; COLLINS MARY [US]; WRIGHT JILL) 24 August 2006 (2006-08-24) paragraph [0010] paragraph [0204] paragraph [0207] claims; examples	1-62
L	WRIGHT JILL F ET AL: "Identification of an interleukin 17F/17A heterodimer in activated human CD4+ T cells." THE JOURNAL OF BIOLOGICAL CHEMISTRY 4 MAY 2007, vol. 282, no. 18, 4 May 2007 (2007-05-04), pages 13447-13455, XP002463526 ISSN: 0021-9258 the whole document	1-62

INTERNATIONAL SEARCH REPORT

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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:

Although claims 35-56 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.:
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 No. III Observations where unity of invention is lacking (Continuation of item 3 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 allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
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.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/063787

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
WO 2005010044	A	03-02-2005	AU 2004259638 A1	03-02-2005
			CA 2530284 A1	03-02-2005
			EP 1641822 A2	05-04-2006
			KR 20060035732 A	26-04-2006
			KR 20070092319 A	12-09-2007
			MX PA06000347 A	28-03-2006
WO 2006088833	A	24-08-2006	AR 052289 A1	07-03-2007
			AU 2006214473 A1	24-08-2006
			CA 2596509 A1	24-08-2006
			EP 1848743 A2	31-10-2007
			NO 20074053 B	31-10-2007