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DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,  
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(54) Title: ANTI-IL18 BINDING PROTEIN ANTIBODIES AND METHODS OF USE THEREOF

(57) Abstract: The present disclosure is generally directed to compositions that include monovalent antibodies, e.g., monoclonal monovalent antibodies that specifically bind a IL18BP polypeptide, e.g., a mammalian IL18BP polypeptide or human IL18BP polypeptide, and use of such compositions in treating an individual in need thereof.



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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2024/010432

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

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:
  - a.  forming part of the international application as filed.
  - b.  furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)).  
 accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
2.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this report has been established to the extent that a meaningful search could be carried out without a WIPO Standard ST.26 compliant sequence listing.
3. Additional comments:

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2024/010432

## 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:
  
2.  Claims Nos.: **1-24, 35-38 (completely); 25-34, 39-65 (partially)**  
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:  
**see FURTHER INFORMATION sheet PCT/ISA/210**
  
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 all searchable 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

International application No PCT/US2024/010432
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. A61P35/00 C07K16/24 C07K16/28 A61K39/00  
 ADD.

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)  
**A61P A61K 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 practicable, search terms used)  
**EPO-Internal, BIOSIS, EMBASE, WPI Data**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KYOHEI NAKAMURA ET AL: "Cancer-killing, decoy-resistant interleukin-18", IMMUNOLOGY AND CELL BIOLOGY, CARLTON, AU, vol. 98, no. 6, 13 June 2020 (2020-06-13), pages 434-436, XP071704941, ISSN: 0818-9641, DOI: 10.1111/IMCB.12359 pages 1, 7 -----	25-34, 39-65
X	US 2019/070262 A1 (RING AARON [US] ET AL) 7 March 2019 (2019-03-07) paragraphs [0358], [0359]; example 1 -----	25-34, 39-65

Further documents are listed in the continuation of Box C.
  See patent family 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 application or patent 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
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Date of the actual completion of the international search <b>14 June 2024</b>	Date of mailing of the international search report <b>05/07/2024</b>
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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, Fax: (+31-70) 340-3016	Authorized officer  <b>Fellows, Edward</b>
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2024/010432

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2019070262	A1	07-03-2019	AU 2018330444 A1	23-04-2020
			AU 2023266285 A1	25-01-2024
			BR 112020004389 A2	08-09-2020
			CA 3080492 A1	14-03-2019
			CN 111315395 A	19-06-2020
			EP 3678681 A1	15-07-2020
			IL 272635 A	31-03-2020
			IL 305370 A	01-10-2023
			JP 2020533301 A	19-11-2020
			JP 2023157959 A	26-10-2023
			KR 20200066623 A	10-06-2020
			SG 11202001384T A	30-03-2020
			US 2019070262 A1	07-03-2019
			US 2023241172 A1	03-08-2023
			US 2023321192 A1	12-10-2023
			US 2023355714 A1	09-11-2023
			WO 2019051015 A1	14-03-2019

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## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 1-24, 35-38 (completely); 25-34, 39-65 (partially)

In response to the PCT invitation to provide informal clarification dated 16.05.2024, the Applicant filed the letter dated 07.06.24 with the request Antibody BP-04.03 be searched in so far as it is defined by its 6 CDRs i.e. SEQ ID NOs: 169 (HCDR1), 171 (HCDR2), 181 (HCDR3), 247 (LCDR1), 248 (LCDR2) and 249 (LCDR3).

The first mention of the aforementioned 6 CDRs grouped together can be found in the claim set as originally filed is in independent claims 25(s). Therefore, the present search was carried out on the subject-matter of claim 25(s) and claims dependent there upon in so far as they relate to the 6 precise CDRs defined by independent claims 25(s) i.e. dependent claims 26-34 and 39-65.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guidelines C-IV, 7.3), should the problems which led to the Article 17(2) PCT declaration be overcome.