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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- with sequence listing part of description (Rule 5.2(a))

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30 July 2020 (30.07.2020)

(54) Title: BACTERIAL STRAINS FOR MEDICAL USES

(57) Abstract: The present invention relates to the field of bacterial strain to be used in medicine. In particular, it relates to the prevention and/or treatment of cancer or diabetes, bacterial strain is *Prevotella melaninogenica*.



WO 2020/109620 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2019/083261

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K35/74
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)
A61K

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, WPI Data, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	ARIANNA CALCINOTTO ET AL: "Microbiota-driven interleukin-17-producing cells and eosinophils synergize to accelerate multiple myeloma progression", NATURE COMMUNICATIONS, vol. 9, no. 1, 1 December 2018 (2018-12-01), XP055665200, DOI: 10.1038/s41467-018-07305-8 the whole document ----- -/--	1-20



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

Date of the actual completion of the international search

6 February 2020

Date of mailing of the international search report

24/06/2020

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ERIC V. MARIETTA ET AL: "Suppression of Inflammatory Arthritis by Human Gut-Derived Prevotella histicola in Humanized Mice : SUPPRESSION OF INFLAMMATORY ARTHRITIS BY PREVOTELLA HISTICOLA", ARTHRITIS & RHEUMATOLOGY (HOBOKEN), vol. 68, no. 12, 28 November 2016 (2016-11-28), pages 2878-2888, XP055665204, US ISSN: 2326-5191, DOI: 10.1002/art.39785	1-3,6, 10-13, 15-20
Y	the whole document page 2879, right-hand column, paragraph 2-3	1-20
X,P	----- WO 2019/051381 A1 (EVELO BIOSCIENCES INC [US]) 14 March 2019 (2019-03-14) claims 1, 13 the whole document paragraphs [0[6]], [0[7]]	1-20
X	----- WO 2014/182632 A1 (UNIV TEXAS [US]) 13 November 2014 (2014-11-13)	1-4,6, 9-12,15, 17-20
Y	the whole document paragraph [[94]] paragraph [[15]] claims 1, 3, 21, 23 paragraph [0[9]]; claim 40	1-20
X	----- WO 2018/152306 A1 (HARVARD COLLEGE [US]) 23 August 2018 (2018-08-23)	1-4,6,7, 9-12, 15-20
Y	paragraphs [[99]] - [[100]] the whole document paragraph [[108]] -----	1-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2019/083261

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.:
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:

see additional sheet

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.:

1-20

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-20

Composition comprising *Prevotella melaninogenica* and therapeutic uses.

2. claims: 21-23

A method for the prognosis of cancer, comprising the steps of: a) measuring the amount of IL-17 in a biological sample isolated from a subject b) comparing said measured IL-17 level to a control IL-17 amount.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2019/083261

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2019051381 A1	14-03-2019	AU 2018330323 A1	19-03-2020
		CA 3075270 A1	14-03-2019
		EP 3679057 A1	15-07-2020
		KR 20200053532 A	18-05-2020
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		US 2019240263 A1	08-08-2019
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		US 2020038458 A1	06-02-2020
		WO 2014182632 A1	13-11-2014

WO 2018152306 A1	23-08-2018	NONE	
