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(54) Title: APTAMERS FOR USE IN THE THERAPY, PREVENTION, DIAGNOSIS AND DETECTION OF THE PAPILLOMAVIRUS

(57) Abstract: Aptamers for use in the therapy, prevention, diagnosis and detection of the Papillomavirus.



WO 2020/008489 A3

INTERNATIONAL SEARCH REPORT

International application No

PCT/IT2019/050159

A. CLASSIFICATION OF SUBJECT MATTER

INV. C12N15/113 C12N15/115
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)

C12N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DIANA GABRIELA VALENCIA-RESÉNDIZ ET AL: "Inhibition of Human Papillomavirus Type 16 Infection Using an RNA Aptamer", NUCLEIC ACID THERAPEUTICS, vol. 28, no. 2, 1 April 2018 (2018-04-01), pages 97-105, XP055573246, US ISSN: 2159-3337, DOI: 10.1089/nat.2017.0687 the whole document ----- -/--	1-17



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

28 October 2019

Date of mailing of the international search report

16/01/2020

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IT2019/050159

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JEREMIAH J. TRAUSCH ET AL: "Development and Characterization of an HPV Type-16 Specific Modified DNA Aptamer for the Improvement of Potency Assays", ANALYTICAL CHEMISTRY, vol. 89, no. 6, 21 March 2017 (2017-03-21), pages 3554-3561, XP055573298, US ISSN: 0003-2700, DOI: 10.1021/acs.analchem.6b04852 the whole document -----	1-17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IT2019/050159

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.:

1-17(partially)

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: 1-17(partially)

An aptamer as defined by SEQ ID NO# 1 for use in the therapy and/or prevention of Papillomavirus, a product for topical application comprising such, a drug comprising such, a kit comprising such, a method for diagnosis of Papillomavirus employing such, a method to select aptamers for therapy comprising such, a method for the identification of novel epitopes responsible for infectivity of the Papillomaviruses comprising such.

2-87. claims: 1-17(partially)

Each single aptamer as defined by SEQ ID NOs# 2-87 for use in the therapy and/or prevention of Papillomavirus, a product for topical application comprising one of such, a drug comprising one of such, a kit comprising one of such, a method for diagnosis of Papillomavirus employing one of such, a method to select aptamers for therapy comprising one of such, a method for the identification of novel epitopes responsible for infectivity of the Papillomaviruses comprising one of such.
