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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
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(54) Title: RNA FOR CANCER THERAPY

(57) Abstract: The present invention relates to RNA, particularly an immuno stimulatory RNA (isRNA), a coding RNA or a combination thereof, for use in the treatment or prophylaxis of a disease, in particular a tumor and/or cancer disease. The present invention also provides pharmaceutical compositions, and a kit comprising the RNA(s). Further, the invention also comprises medical uses of the RNA(s) and compositions comprising the RNA(s).



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. A61K39/39 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 , BIOSIS, CHEM ABS Data, 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.		
X	BALD TOBIAS ET AL: " Immune Cell -Poor Melanomas Benefit from PD-1 Blockade after Targeted Type I IFN Activation" , CANCER DISCOVERY, vol . 4, no. 6, June 2014 (2014-06) , pages 674-687, XP55411718, ISSN : 2159-8274 page 683 page 684, left-hand column, paragraph 5 ----- - / - -	1-73		
<table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. </td> <td style="width:50%; border: none;"> <input checked="" type="checkbox"/> See patent family annex. </td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<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 :				
"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 13 February 2018	Date of mailing of the international search report 22/02/2018			
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 Mata Vi cente, Teresa			

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/025230

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HEIDENREICH REGINA ET AL: "A novel RNA-based adjuvant combines strong immunostimulatory capacities with a favorable safety profile", INTERNATIONAL JOURNAL OF CANCER, vol . 137, no. 2, July 2015 (2015-07) , pages 372-384, XP002776158, ISSN: 0020-7136 page 373, left-hand column, paragraph 3 Discussion -----	1-73
X	W0 2015/149944 A2 (CUREVAC GMBH [DE]) 8 October 2015 (2015-10-08) sequence 385 Example 1, section 4 page 133, line 24 - page 134, line 13 sequence 6 -----	1-73
X	W0 2012/113513 A1 (CUREVAC GMBH [DE] ; BAUMHOF PATRICK [DE] ; KALLEN KARL-JOSEF [DE] ; FOTIN) 30 August 2012 (2012-08-30) claims 3,5, 13 -----	1-3,5-73
X.P	W0 2016/170176 A1 (CUREVAC AG [DE]) 27 October 2016 (2016-10-27) tables 17,22 Example 1, section 3 -----	1-73
A	PRUITT SCOTT K ET AL: "Enhancement of anti -tumor immunity through local modulation of CTLA-4 and GITR by dendritic cells", EUROPEAN JOURNAL OF IMMUNOLOGY, vol . 41, no. 12, December 2011 (2011-12) , pages 3553-3563, XP55356982, ISSN: 0014-2980 page 3554, left-hand column, paragraph 3 - right-hand column, paragraph 1 -----	1-73

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2017/025230

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.:

I-73(partial ly)
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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-73 (partially)

Immunostimulatory RNA (isRNA) for use in the treatment or prophylaxis of a tumor or cancer disease selected from the group consisting of cutaneous melanoma (cMEL), cutaneous squamous cell carcinoma (cSCC), head and neck squamous cell carcinoma (HNSCC), adenoid cystic carcinoma (ACC), cutaneous T-cell lymphoma, preferably cutaneous T-cell lymphoma of mycosis fungoides subtype, and vulvar squamous cell cancer (VSCC), wherein the tumor or the cancer disease is preferably at an advanced stage and/or refractory to standard therapy, wherein the treatment comprises administration of a checkpoint modulator and wherein said modulator is a PD-1 inhibitor.

2-11. claims: 1-73 (partially)

Idem as subject one, but restricted to the checkpoint modulator being each one of a PD-L1 inhibitor, a CTLA-4 inhibitor, a LAG3 inhibitor, a TIM3 inhibitor, a TIGIT-inhibitor, an OX40 stimulator, a 4-1BB stimulator, a CD40L stimulator, a CD28 stimulator and a GITR stimulator, respectively.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2017/025230

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
wo 2015149944 A2	08-10-2015	CA 2935286 AI	08-10-2015
		EP 3129G50 A2	15-02-2017
		US 2017252430 AI	07-09-2017
		WO 2015149944 A2	08-10-2015

wo 2012113513 AI	30-08-2012	CA 2825223 AI	30-08-2012
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		WO 2012113513 AI	30-08-2012

wo 2015170176 AI	27-10-2016	AU 2016251687 AI	24-08-2017
		CA 2975333 AI	27-10-2016
		EP 3173092 A2	31-05-2017
		KR 20170138548 A	15-12-2017
		SG 11201707832R A	29-11-2017
		TW 201704250 A	01-02-2017
		US 2016331844 AI	17-11-2016
		WO 2016170176 AI	27-10-2016
