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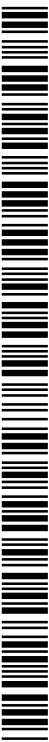
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
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MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
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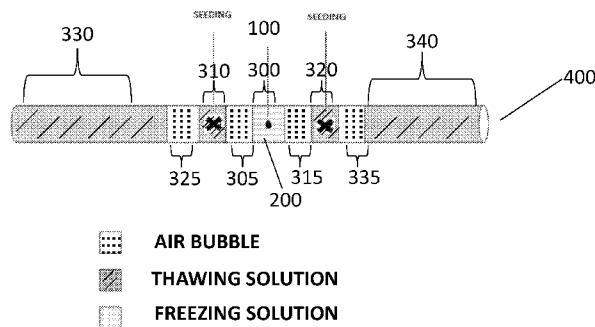
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WO 2017/009713 A3

(54) Title: CRYOPRESERVING UNGULATE EMBRYOS

FIG. 1



(57) Abstract: Technologies for cryopreserving ungulate embryos for implantation into recipient females are described.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2016/001112

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61D19/04 C12N5/073
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)
A61D C12N A61N
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/136512 A1 (KING WILLIAM ALLAN [CA] ET AL) 3 June 2010 (2010-06-03) paragraphs [0002], [0063], [0079] - [0090], [0106] - [0130]	22-27
X	US 2002/028849 A1 (GODKIN JAMES D [US] ET AL) 7 March 2002 (2002-03-07) paragraphs [0006], [0015], [0024], [0055], [0056]	22-24,27
A	US 5 504 002 A (AOYAGI YOSHITO [JP]) 2 April 1996 (1996-04-02) column 3, lines 34-67 figure 1	28-30, 33-39
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 8 February 2017	Date of mailing of the international search report 16/02/2017
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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 Chabus, Hervé
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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2016/001112

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 707 339 A (KAMEYAMA KENJI [JP]) 13 January 1998 (1998-01-13) column 2, lines 19-61 figure 1	23-30, 33-39
A	----- US 5 160 312 A (VOELKEL STEVEN A [US]) 3 November 1992 (1992-11-03) column 6, lines 19-53 figure 1 -----	28-30, 33-39

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2016/001112

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.: 1-21, 31, 32, 40-42
because they relate to subject matter not required to be searched by this Authority, namely:
Method claims 1-21 and 31-32 are directed to methods including the surgical steps of transferring embryos for implantation in recipient ungulates. Therefore, these methods taken as a whole are considered as being directed to methods of treatment of the animal body by surgery (Rule 39.1(iv) PCT).
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.:

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: 22-27

Cryopreserved embryo produced by a specific method.

2. claims: 28-30, 33-39

Device comprising an embryo positioned between alternating regions comprising air and a thawing solution. Method of freezing an embryo and method of thawing an embryo involving such an embryo, air and thawing solution arrangement.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2016/001112

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2010136512	A1	03-06-2010	CA 2644091 A1	20-04-2010
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			WO 2010045715 A1	29-04-2010

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			WO 9112719 A1	05-09-1991
