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[Continued on next page]

(54) Title: INJECTION NEEDLE AND DEVICE

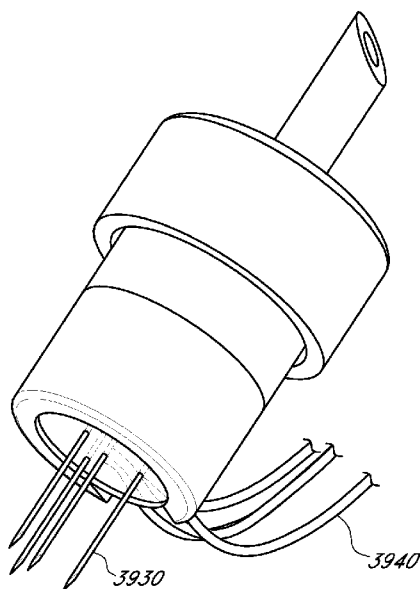


FIG. 39A

(57) Abstract: Several needle assemblies and intracellular delivery devices that are used for the delivery of prophylactic and/or therapeutic material (i.e., delivered agents) into a tissue of a subject are disclosed. Preferably, the needle assemblies and/or the intracellular delivery devices comprise needles and/or needle electrodes, which are disposed in an array (e.g., a Y-type array having three outer needles and a center needle), wherein each needle in the array has a closed end and a plurality of apertures along each needle barrel, and the apertures on the needle barrels of the outer needles of the array are positioned to deliver the delivered agent toward the apertures of the center needle and/or an adjacent needle, but not outside of the active zone defined by the area within the needle array and the apertures on the needle barrel of the center needle are positioned to deliver the delivered agent toward the outer needles.



OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

- of inventorship (Rule 4.17(iv))

Published:

- 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))
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28 March 2013

(15) Information about Correction:
see Notice of 28 March 2013

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. A61M5/32 A61N1/32 A61N1/05 A61M5/19 A61M5/315 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) A61M 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.
Y	US 2004/059285 A1 (MATHIESEN IACOB [NO] ET AL) 25 March 2004 (2004-03-25) paragraphs [0001], [0096] - [0098], [0100] figures 1, 2c, 7-18 -----	1-15
Y	US 2004/147964 A1 (NOLAN EDWARD [US] ET AL) 29 July 2004 (2004-07-29) paragraphs [0002], [0016] - [0020], [0055], [0058], [0059], [0063], [0090] - [0093], [0099] - [0101], [0107], [0116] claims 15, 34, 37 figures 8, 9, 12 ----- -/--	1-15
☒ 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 14 November 2012		Date of mailing of the international search report 30/01/2013
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 López García, Mónica

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.
Y	US 2009/030364 A1 (HARMON JOHN W [US] ET AL) 29 January 2009 (2009-01-29) paragraphs [0049], [0053], [0072] figures 1-13 -----	1-15
Y	US 2008/058706 A1 (ZHANG LEI [US] ET AL) 6 March 2008 (2008-03-06) paragraphs [0002], [0117] figures 2-7B, 8-11D, 32-42B -----	1-15
X,P	WO 2011/073796 A2 (CHRONTECH PHARMA AB [SE]; SALLBERG MATTI [SE]; FRELIN LARS [SE]) 23 June 2011 (2011-06-23) the whole document -----	1-15
A	US 7 776 373 B2 (PELLETIER PETER R [US] PELLETIER PETER ROBERT [US]) 17 August 2010 (2010-08-17) figure 1 -----	1-15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2012/001321

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.: 16-25
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
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:

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

Continuation of Box II.1

Claims Nos.: 16-25

Independent claim 16 refers to a " A method of introducing a delivered agent into a tissue of a subject..". Therefore, independent claim 16 (and consequently dependent claims 17-25) relate to a subject-matter considered by this Authority to be covered by the provision of rule 39.1(iv)/67.1(iv) PCT. Therefore, no examination will be carried out on the subject-matter of claims 16-25.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2012/001321

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		NONE	