

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 April 2006 (06.04.2006)

PCT

(10) International Publication Number
WO 2006/035444 A3

(51) International Patent Classification:
A61M 31/00 (2006.01) A61N 1/30 (2006.01)

(74) Agent: G.E. EHRLICH (1995) LTD.; 11 Menachem Be-
gin Street, 52 521 Ramat Gan (IL).

(21) International Application Number:
PCT/IL2005/001049

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY,
MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO,
NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
29 September 2005 (29.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/613,720 29 September 2004 (29.09.2004) US
60/613,721 29 September 2004 (29.09.2004) US
60/623,878 2 November 2004 (02.11.2004) US
60/677,813 5 May 2005 (05.05.2005) US
60/677,827 5 May 2005 (05.05.2005) US

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicants (for all designated States except US): TEL
HASHOMER MEDICAL RESEARCH INFRA-
STRUCTURE AND SERVICES LTD. [IL/IL]; The
Chaim Sheba Medical Center, Tel HaShomer, 52621
Ramat Gan (IL). MEDICAL RESEARCH FUND OF
TEL AVIV SOURASKY MEDICAL CENTER [IL/IL];
6 Weizmann Street, 64239 Tel Aviv (IL).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(72) Inventors; and

(88) Date of publication of the international search report:
22 June 2006

(75) Inventors/Applicants (for US only): MARDOR, Yael
[IL/IL]; 77D Savidor Street, Ramat Poleg, 42655 Ne-
tania (IL). RAM, Zvi [IL/IL]; 10 Hadas Street, 52647
Ramat-Gan (IL).

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: COMPOSITION FOR IMPROVING EFFICIENCY OF DRUG DELIVERY

(57) Abstract: Method and composition suitable for administering by direct convective interstitial infusion are disclosed. The method comprises: placing at least one direct convective interstitial infusion catheter in contact with the tissue, and pressuring the composition through the catheter. The composition is in a liquefied form having a viscosity above a predetermined value. The predetermined value is selected so as to improve infusion of the compositions into interstitial volumes of the tissue, while minimizing backflow of the compositions along an outer wall of the catheter or leakage into low resistance paths. It is demonstrated that high viscosity results in higher treatment efficiency.

WO 2006/035444 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL05/01049

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC: A61M 31/00(2006.01);A61N 1/30(2006.01)</p> <p>USPC: 604/500,21 According to International Patent Classification (IPC) or to both national classification and IPC</p>															
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) U.S. : 604/500,21</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WEST: all data bases</p>															
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td rowspan="2">US 5,720,720 A (LASKE et al) 24 February 1998 (24.02.1998), see the entire document.</td> <td>1-27, 35-49</td> </tr> <tr> <td>---</td> <td>28-34, 50-99</td> </tr> <tr> <td>Y</td> <td rowspan="2">US 2002/0052311 A1 (SOLOMON et al) 02 May 2002 (02.05.2002), see entire document.</td> <td>28-34, 50-99</td> </tr> <tr> <td>Y</td> <td></td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 5,720,720 A (LASKE et al) 24 February 1998 (24.02.1998), see the entire document.	1-27, 35-49	---	28-34, 50-99	Y	US 2002/0052311 A1 (SOLOMON et al) 02 May 2002 (02.05.2002), see entire document.	28-34, 50-99	Y	
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.													
X	US 5,720,720 A (LASKE et al) 24 February 1998 (24.02.1998), see the entire document.	1-27, 35-49													
---		28-34, 50-99													
Y	US 2002/0052311 A1 (SOLOMON et al) 02 May 2002 (02.05.2002), see entire document.	28-34, 50-99													
Y															
<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.</p>															
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td style="vertical-align: top;"> <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 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> </td> <td style="vertical-align: top;"> <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> </td> </tr> </table>			<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 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>											
<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 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>														
<p>Date of the actual completion of the international search 21 March 2006 (21.03.2006)</p>		<p>Date of mailing of the international search report 09 MAY 2006</p>													
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201</p>		<p>Authorized officer <i>Natilla Ebrahim</i> Telephone No. 571-272-1600</p>													