



**(43) International Publication Date**  
**27 February 2003 (27.02.2003)**

# PCT

**(10) International Publication Number**  
**WO 2003/015839 A3**

- |  |   |  |
|--|---|--|
| (51) <b>International Patent Classification<sup>7</sup>:</b>   | <b>A61K 9/22</b>                                    | (81) <b>Designated States</b> ( <i>national</i> ): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW. |
| (21) <b>International Application Number:</b>  | PCT/IL2002/000645                                   |  |
| (22) <b>International Filing Date:</b>   | 6 August 2002 (06.08.2002)                          |  |
| (25) <b>Filing Language:</b>   | English   |  |
| (26) <b>Publication Language:</b>  | English   |  |
| (30) <b>Priority Data:</b>   | 09/930,455      16 August 2001 (16.08.2001)      US | (84) <b>Designated States</b> ( <i>regional</i> ): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).  |
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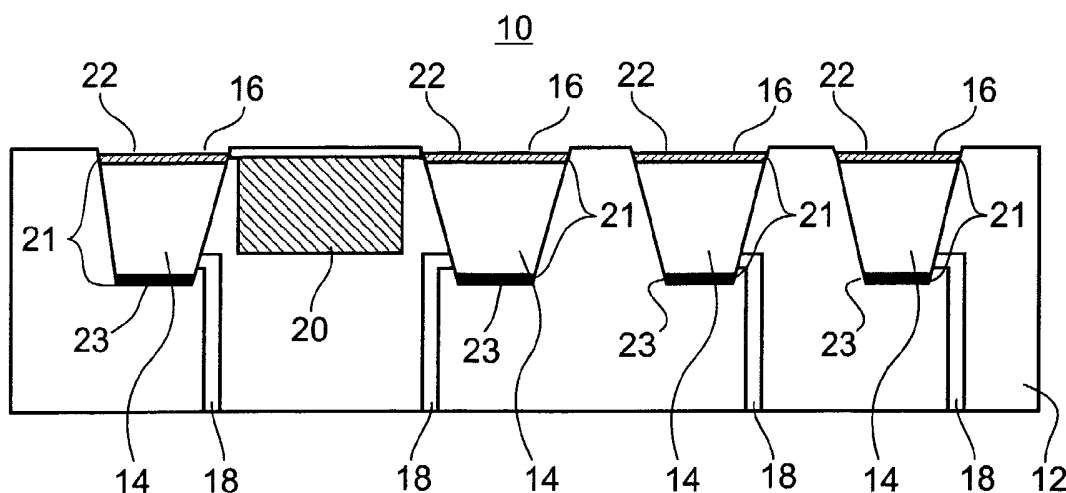
**Published:**

— *with international search report*

(88) Date of publication of the international search report:  
18 March 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

- (54) Title:** DEVICES FOR INTRABODY DELIVERY OF MOLECULES AND SYSTEMS AND METHODS UTILIZING SAME



- (57) Abstract:** A device (10) for controlled release of molecules is provided. The device (10) including: (a) a device body (12) having at least one reservoir (14) therein for containing the molecules, the at least one reservoir (14) being formed with a barrier (16) impermeable to the molecules thereby preventing release thereof from the at least one reservoir (14); and (b) at least one acoustic transducer (20) being attached to, or forming a part of, the device body (12), the at least one acoustic transducer (20) being for converting an acoustic signal (57) received thereby into an electrical signal, the electrical signal leading to barrier permeabilization and therefore release of the molecules from the at least one reservoir (14).

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL02/00645

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 9/22

US CL : 604/890.1

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)

U.S. : 604/890.1, 891.1, 93.01, 191, 19, 131, 145

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)

Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,797,898 A (SANTINI, JR. et al) 25 August 1998, see Abstract.	1-15, 29, 30, 32-38 and 40-43
Y	US 6,123,861 A (SANTINI, JR. et al) 26 September 2000, see Abstract.	1-15, 29, 30, 32-38 and 40-43
Y	US 5,126,589 A (RENGER) 30 June 1992, see Column 1, lines 26-29.	1-15, 29, 30, 32-38 and 40-43
X,E	US 6,491,666 B1 (SANTINI, JR. et al) 10 December 2002, see Figure 6B and Column 11, line 60 through Column 12, line 58.	1-15, 29, 30, 32-38 and 40-43.
A	US 5,312,439 A (LOEB) 17 May 1994, see Figure 1.	1-43
A	US 6,048,328 A (HALLER et al) 11 April 2000, see Figure 1.	1-43

☐ 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

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"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

16 December 2002 (16.12.2002)

Date of mailing of the international search report

23 JUN 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks  
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# INTERNATIONAL SEARCH REPORT

PCT/IL02/00645

## Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: (((acoustic near5 (transducer or sensor)) or piezoelectric) same (drug or medicament or medicine or therapeutic or medicant or medication)) and implantable; electrolytic same implantable; (implantable same (drug or medicament or medicant or medication or medicine or therapeutic)) and ((acoustic near2 (transducer or sensor or detector)) same (electrical or electrode or electricity or electrically)) and (impermeable or (selectively near2 permeable)); (((selectively or controllably or regula\$) near5 permeable near2 membrane) same (drug or ions or medicine or therapeutic or medicant or medicament)) and (acoustic near5 ((transducer or sensor) or piezoelectric))