(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 10 August 2006 (10.08.2006)

PCT (

(10) International Publication Number WO 2006/083257 A3

(51) International Patent Classification: *A61K 9/20* (2006.01) *H01L 21/00* (2006.01)

A61K 9/22 (2006.01)

(21) International Application Number:

PCT/US2005/013487

(22) International Filing Date: 20 April 2005 (20.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/857,279 28 May 2004 (28.05.2004) US

(71) Applicant (for all designated States except US): TECH-NOLOGY INNOVATIONS, LLC [US/US]; 150 Lucius Gordon Drive Suite 215, West Henrietta, New York 14586 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WOOLF, Nancy, J. [US/US]; 3186 Coldwater Canyon Road, Studio City, California 91604 (US). TUSZYNSKI, Jack, A. [CA/CA]; 3503 117 Street, Edmonton, Alberta, T6J 1S2 (CA).

(74) Agents: O'SHAUGHNESSY, Brian, P. et al.; Buchanan Ingersoll and Rooney PC, P.O. Box 1404, Alexandria, VA 22313-1404 (US).

(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, MA, MD, MG, MK, MN, MW, MX, MZ, NA, 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.

(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, 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).

Published:

with international search report

(88) Date of publication of the international search report: 7 December 2006

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: DRUG DELIVERY APPARATUS UTILIZING CANTILEVER

(57) Abstract: Disclosed is a device which employs a chemically sensitive cantilever hingably attached to a capsule. The cantilever functions as a switch which regulates the flow of particles into and/or out of the capsule.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/13487

A. CLASSIFICATION OF SUBJECT MATTER IPC: A61K 9/20(2006.01),9/22(2006.01);H01L 21/00(2006.01)			
USPC: 424/464;604/891.1;438/52 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.: 424/130.1, 408, 422, 423, 427, 451, 464, 468; 604/31, 502, 503, 504, 66, 67, 890.1, 891.1; 438/49, 52, 53			
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)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
X,E Y	US 2005/0177223 A1 (PALMAZ) 11 August 2005 (11.08.2005), entire document, figures 8, 9, paragraph [0042]. US 6,289,717 B1 (THUNDAT et al) 18 September 2001 (18.09.2001), entire document, 1-3,5,10,11,14,16,21		
_	column 4, lines 32-41.		
Y	US 6,491,666 B1 (SANTINI, JR. et al) 10 December 2002 (10.12.2002), abstract, figure 5, column 12, lines 11-19. US 2003/0069560 A1 (ADAMIS et al) 10 April 2003 (10.04.2003), figure 9B.		1-3,5,10,11,14,16,21 1-21
A			
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 "B" earlier application or patent published on or after the international filing date "CH" earlier application or patent published on or after the international filing date "CH" 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 "CH" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone			ation but cited to understand the ation
"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)		"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	
"O" documen	t referring to an oral disclosure, use, exhibition or other means	obvious to a person skilled in the art	
"P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family			
Date of the actual completion of the international search Date of mailing of the international search 23 AIIG 2006			
22 June 2006 (22.06.2006) Name and mailing address of the ISA/US Authorized officer			
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201			

Form PCT/ISA/210 (second sheet) (April 2005)