

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 January 2009 (29.01.2009)

PCT

(10) International Publication Number
WO 2009/014696 A3

(51) International Patent Classification:

A61L 31/08 (2006.01) A61L 31/14 (2006.01)
A61L 31/16 (2006.01)

(21) International Application Number:

PCT/US2008/008901

(22) International Filing Date:

22 July 2008 (22.07.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/951,280 23 July 2007 (23.07.2007) US

(71) Applicant (for all designated States except US):
BOSTON SCIENTIFIC LIMITED [IE/BB]; P.O. Box
1317, Seaston House, Hastings, Christ Church (BB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **CLARKE, John, T.**
[IE/IE]; Kiniska Claregalway, Co. Galway (IE).

(74) Agents: **NABINGER, Robert** et al.; Fish & Richardson
P.C., P.O. Box 1022, Minneapolis, MN 55440-1022
(US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,

CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ,
EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG,
SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MT, NL, NO, 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 (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))

(88) Date of publication of the international search report:

25 March 2010

(54) Title: MEDICAL DEVICES WITH COATINGS FOR DELIVERY OF A THERAPEUTIC AGENT

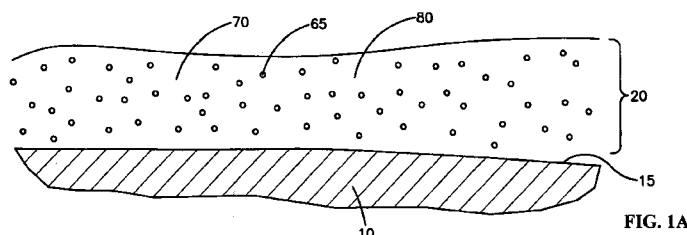


FIG. 1A

(57) Abstract: Described herein are implantable coated medical devices, such as intravascular stents, for delivering therapeutic agents to the body tissue of a patient, and methods for making such medical devices. In particular, described herein are implantable coated medical devices comprising a substrate having a surface, and a coating disposed upon the surface that comprises a coating composition that includes a releasable metal oxide. The coating is free of polymer or a particular type of polymer that is not a part of any releasable metal oxide.

WO 2009/014696 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/008901

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61L31/08 A61L31/16 A61L31/14

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)

A61L A61F

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 practical, search terms used)

EPO-Internal, WPI Data, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 2006/116752 A2 (UNIV CALIFORNIA [US]; JIN SUNGHO [US]; OH SEUNGHAN [US]) 2 November 2006 (2006-11-02)</p> <p>page 75, line 31 - page 76, line 7 page 76, line 13 - line 21 page 80, lines 24-31 page 84, line 32 - page 85, line 6 figure 5</p> <p style="text-align: center;">----- -/--</p>	<p>1-2, 8, 12, 14-15, 17-18, 20-22, 28-31, 34</p>

☒ 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 document 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

20 January 2010

Date of mailing of the international search report

27/01/2010

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

Zalfen, Alina

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/008901

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/063158 A2 (BOSTON SCIENT SCIMED INC [US]; HELMUS MICHAEL N [US]) 15 June 2006 (2006-06-15) paragraph [0034] - paragraph [0036] paragraph [0041] -----	1-2, 8-13, 15, 17-18, 20-22, 28, 30, 32-38
X	US 6 099 561 A (ALT ECKHARD [DE]) 8 August 2000 (2000-08-08)	1-2, 8-9, 17-18
Y	column 5, line 31 - column 6, line 6 column 7, lines 6-12 -----	3-7, 14, 16, 19, 23-27, 29, 31, 33, 39
X	WO 2006/104644 A2 (SDGI HOLDINGS INC [US]; ISTEPHANOUS NAIM S [US]; ROULEAU JEFFREY P [US]) 5 October 2006 (2006-10-05) page 2, line 28 - page 3, line 2 page 3, line 30 - page 4, line 8 page 4, lines 16-25 page 16, lines 2-4 claim 9 -----	1-2, 8, 12-14, 16-18, 20-22, 29-31, 34
Y	WO 2005/049520 A2 (NAT UNIV IRELAND [IE]; CUNNINGHAM PATRICK DESMOND [IE]; MCMANUS JAMES) 2 June 2005 (2005-06-02) page 2, lines 2-3 figure 1 -----	3-7, 14, 16, 19, 23-27, 29, 31, 33, 39
A	LIU X ET AL: "Surface modification of titanium, titanium alloys, and related materials for biomedical applications" MATERIALS SCIENCE AND ENGINEERING R: REPORTS, ELSEVIER SEQUOIA S.A., LAUSANNE, CH, vol. 47, no. 3-4, 24 December 2004 (2004-12-24), pages 49-121, XP004722113 ISSN: 0927-796X abstract table 5 -----	1-39

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/008901

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006116752 A2	02-11-2006	EP 1879522 A2 US 2009220561 A1	23-01-2008 03-09-2009
WO 2006063158 A2	15-06-2006	EP 1838362 A2 US 2006127442 A1	03-10-2007 15-06-2006
US 6099561 A	08-08-2000	NONE	
WO 2006104644 A2	05-10-2006	CA 2600622 A1 CN 101166549 A EP 1863544 A2 JP 2008534126 T US 2006229715 A1	05-10-2006 23-04-2008 12-12-2007 28-08-2008 12-10-2006
WO 2005049520 A2	02-06-2005	AU 2004290656 A1 CA 2547864 A1 CN 1902287 A EP 1685199 A2 JP 2007514632 T US 2007140937 A1	02-06-2005 02-06-2005 24-01-2007 02-08-2006 07-06-2007 21-06-2007