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(71) Applicant (for all designated States except US):
PROFIBRIX B.V. [NL/NL]; Zernikedreef 9, 2333 CK Leiden (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MARTYN, Glen Patrick** [GB/GB]; c/o Savantium Ltd, 83 Asfordby Road, Melton Mowbray Leicestershire LE13 0HN (GB). **KOOPMAN, Jacob** [NL/NL]; c/o Profibrix B.V., Zernikedreef 9, 2333 CK Leiden (NL).

(74) Agents: **JONES, Stephen** et al.; Adamson Jones, BioCity Nottingham, Pennyfoot Street, Nottingham Nottinghamshire NG1 1GF (GB).

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(54) Title: DRY POWDER FIBRIN SEALANT

(57) Abstract: A fibrin sealant comprises a mixture of first microparticles that comprise fibrinogen, second microparticles that comprise thrombin, and additive material. The additive material may be particulate, and may be, for instance, a biocompatible, water-absorbent, material, a biocompatible, water-swellaable material, a biocompatible, water-insoluble material, a polysaccharide or silica.



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INTERNATIONAL SEARCH REPORT

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PCT/EP2010/057477

A. CLASSIFICATION OF SUBJECT MATTER

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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 A61K

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, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97/44015 A1 (ANDARIS LTD [GB]) 27 November 1997 (1997-11-27) page 1, lines 3-5 page 3, lines 19-25, 32-37 page 4, lines 1-8, 26-36 page 5, lines 4-33 pages 6-7; example 1 claims 6,9,10	1-14
X	WO 00/24436 A1 (GLATT PROCESS TECHNOLOGY GMBH [DE]; PRASCH ARMIN [DE]; LUY BERNHARD [D]) 4 May 2000 (2000-05-04) page 1, lines 6-15 page 6, line 11 - page 9, line 28 page 14, line 29 - page 16, line 6; claims 1-5, 14, 16	1-14
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☒ See patent family annex.

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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

Toulacis, C

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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.
A	WO 2009/046194 A2 (UNIV ILLINOIS [US]; SMITH STEPHANIE A [US]; MORRISSEY JAMES H [US]) 9 April 2009 (2009-04-09) the whole document -----	1-14
A	EP 1 157 706 A2 (AVENTIS BEHRING GMBH [DE]) 28 November 2001 (2001-11-28) the whole document -----	1-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2010/057477

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9744015	A1	27-11-1997	AU 702955 B2 11-03-1999
		AU 2783797 A 09-12-1997	
		EP 0914096 A1 12-05-1999	
		JP 4024302 B2 19-12-2007	
		JP 2000511169 T 29-08-2000	
		NO 985340 A 18-01-1999	
		US 6113948 A 05-09-2000	
WO 0024436	A1	04-05-2000	AT 230618 T 15-01-2003
		AU 765770 B2 25-09-2003	
		AU 6342899 A 15-05-2000	
		CA 2349000 A1 04-05-2000	
		DE 19849589 C1 15-06-2000	
		DK 1124589 T3 05-05-2003	
		EP 1124589 A1 22-08-2001	
		ES 2190663 T3 01-08-2003	
		JP 2002528180 T 03-09-2002	
		RU 2242996 C2 27-12-2004	
		US 2002037323 A1 28-03-2002	
WO 2009046194	A2	09-04-2009	US 2010284998 A1 11-11-2010
EP 1157706	A2	28-11-2001	AU 784520 B2 27-04-2006
		AU 4616601 A 29-11-2001	
		CA 2348119 A1 22-11-2001	
		DE 10025001 A1 29-11-2001	
		JP 2001327592 A 27-11-2001	
		US 2002001584 A1 03-01-2002	