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(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
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(27) Previously filed application:
16.06.2005 PCT/US2005/021326

(54) **Contrast medium and its use in intravascular imaging device**

(57) The invention is directed to a probe-type imaging device useful to visualize interior surfaces, *e.g.*, the lumen of blood vessels. Specifically, the probe-type device is particularly useful for direct tissue imaging in the pres-

ence or absence of molecular imaging agents. The invention relates to contrast media.

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EUROPEAN SEARCH REPORT

Application Number
EP 11 16 3350

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 03/061711 A2 (VISEN MEDICAL INC) 31 July 2003 (2003-07-31) * page 13, lines 3-5; claims 1, 4, 5, 7-11, 13, 14, 19 * * page 12, lines 9-14 * * page 9, lines 10-21 * * page 10, lines 5-27 * * page 8, lines 14-23,30-31 * * page 6, lines 3-12; table I * * page 5, lines 24-27 * * page 4, line 13 - page 5, line 1 * * page 2, lines 9-29 *	1-3, 10-12	INV. A61B5/00 A61K49/00 A61K49/10 A61K49/14 A61B5/02
X	WO 01/50955 A1 (FLOCK S T; MARCHITTO K S) 19 July 2001 (2001-07-19) * page 9, lines 6-10; claims 1, 4, 12; examples 9, 10 *	1-3, 10-12	
X,D	EP 1 104 761 A1 (DAIICHI PURE CHEMICALS CO LTD) 6 June 2001 (2001-06-06) * paragraphs [0002], [0008]; claims 1-6 *	1-3, 10-12	TECHNICAL FIELDS SEARCHED (IPC)
X	WO 03/055887 A1 (CATALYST BIOMEDICA LTD) 10 July 2003 (2003-07-10) * pages 16, 34; claims 1, 26; examples 1, 29 *	1-3, 10-12	A61B A61K

-The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 June 2012	Examiner Kanbier, Titia
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 (03.82) (P04001)



Application Number

EP 11 16 3350

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
2, 3(completely); 1, 10-12(partially)
- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 11 16 3350

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 2, 3(completely); 1, 10-12(partially)

A contrast agent comprising a pharmacophore (i.e. chromophore) having a molecular weight of less than 2 kD, suitable for intravascular imaging (optionally additionally using an imaging device); which pharmacophore directly labels a blood component through a stable chemical bond.

2. claims: 4, 5(completely); 1, 10-12(partially)

A contrast agent comprising a pharmacophore (i.e. chromophore) having a molecular weight of less than 2 kD, suitable for intravascular imaging (optionally additionally using an imaging device); which is a free pharmacophore.

3. claims: 6, 7(completely); 1, 8, 10-12(partially)

A contrast agent comprising a pharmacophore (i.e. chromophore) having a molecular weight of less than 2 kD, suitable for intravascular imaging (optionally additionally using an imaging device); which is a pharmacophore with a short tether to specific molecules having enhanced function in tissue of interest, e.g. which are metabolites.

4. claims: 9(completely); 1, 8, 10-12(partially)

A contrast agent comprising a pharmacophore (i.e. chromophore) having a molecular weight of less than 2 kD, suitable for intravascular imaging (optionally additionally using an imaging device); which is a pharmacophore with a short tether to specific molecules having enhanced function in tissue of interest, and which is a plaque-targeting pharmacophore directly attached to a fluorescent tag.

5. claims: 1, 10-12(all partially)

A contrast agent comprising a pharmacophore having a molecular weight of less than 2 kD, suitable for intravascular imaging (optionally additionally using an imaging device), wherein the contrast medium for the pharmacophore comprises an MRI contrast medium or a CT contrasting agent.

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 11 16 3350

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-06-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03061711 A2	31-07-2003	US 2005171434 A1	04-08-2005
		US 2010074847 A1	25-03-2010
		WO 03061711 A2	31-07-2003

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WO 03055887 A1	10-07-2003	AU 2002353209 A1	15-07-2003
		WO 03055887 A1	10-07-2003

专利名称(译)	造影剂及其在血管内成像装置中的应用		
公开(公告)号	EP2438847A3	公开(公告)日	2012-11-07
申请号	EP2011163350	申请日	2005-06-16
[标]申请(专利权)人(译)	D·R·埃尔马勒		
申请(专利权)人(译)	ELMALEH, DAVID R.		
当前申请(专利权)人(译)	ELMALEH, DAVID R.		
[标]发明人	ELMALEH DAVID R		
发明人	ELMALEH, DAVID R.		
IPC分类号	A61B5/00 A61K49/00 A61K49/10 A61K49/14 A61B5/02		
CPC分类号	A61B5/0071 A61B5/0068 A61B5/0084 A61B5/0086 A61B5/02007 A61K49/0034		
优先权	60/580938 2004-06-18 US		
其他公开文献	EP2438847A2		
外部链接	Espacenet		

摘要(译)

本发明涉及一种探针型成像装置，用于可视化内表面，例如血管腔。具体地，探针型装置特别适用于存在或不存分子成像剂的直接组织成像。本发明涉及造影剂。

Category	Classification of documents with indications where appropriate of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WD 03/063711 A2 (VISEN MEDICAL INC) 31 July 2003 (2003-07-31) * page 12, lines 2-5; claims 1, 4, 5, 7-11, 13, 14; 19 * * page 12, lines 9-14 * * page 9, lines 10-21 * * page 10, lines 5-27 * * page 8, lines 14-23, 30-31 * * page 6, lines 3-12; table 1 * * page 5, lines 24-27 * * page 4, line 13 - page 5, line 1 * * page 2, lines 9-29 * -----	1-3, 10-12	11V A61B5/00 A61K49/00 A61K49/10 A61K49/14 A61B5/02
X	WD 01/50955 A1 (FLOCK S T; MARCHITTO K S) 19 July 2001 (2001-07-19) * page 9, lines 6-10; claims 1, 4, 12; examples 9, 10 * -----	1-3, 10-12	
X,D	EP 1 104 761 A1 (DAIICHI PURE CHEMICALS CO LTD) 6 June 2001 (2001-06-06) * paragraphs [0002]- [0009]; claims 1-6 * -----	1-3, 10-12	TECHNICAL FIELD SEARCHED (IPC)
X	WD 03/055887 A1 (CATALYST BIOMEDICA LTD) 10 July 2003 (2003-07-10) * pages 16, 34; claims 1, 26; examples 1, 29 * -----	1-3, 10-12	A61B A61K

-The present search report has been drawn up for all claims-

SEARCHED	INDEXED	CLASSIFIED	EXTENDED
The Hague	8 June 2012		Kanbier, Titia

CATEGORY OF CITED DOCUMENTS

0 particularly relevant to the invention
 1 particularly relevant if considered with another document of the same category
 2 non-relevant document
 3 non-relevant document
 4 non-relevant document

REMARKS

1 theory or principle underlying the invention
 2 earlier related document, but published on, or after, the filing date
 3 document cited in the application
 4 document cited for other reasons
 5 members of the same patent family, corresponding documents