



European Patent
Office

**SUPPLEMENTARY
PARTIAL EUROPEAN SEARCH REPORT**

Application Number

which under Rule 63 of the European Patent Convention EP 03 74 4629
shall be considered, for the purposes of subsequent
proceedings, as the European search report

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	DESAI UMESH R ET AL: "Oligosaccharide composition of heparin and low molecular-weight heparins by capillary electrophoresis" ANALYTICAL BIOCHEMISTRY, vol. 213, no. 1, 1993, pages 120-127, XP002485468 ISSN: 0003-2697 * the whole document *	1-4	INV. G01N33/53 G01N33/48
A	VENKATARAMAN G: "Sequencing complex polysaccharides" SCIENCE, WASHINGTON, DC, vol. 286, 15 October 1999 (1999-10-15), pages 537-542, XP002179570 ISSN: 0036-8075 * the whole document *	1-36	
			TECHNICAL FIELDS SEARCHED (IPC)
			G01N
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or some or all of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for the following claims:</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search		Date of completion of the search	Examiner
Munich		30 June 2008	Hoesel, Heidi
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 03.02 (P04E20)



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	DESAI UMESH R ET AL: "Molecular weight of low molecular weight heparins by ¹³ C nuclear magnetic resonance spectroscopy" CARBOHYDRATE RESEARCH, vol. 255, no. 0, 1994, pages 193-212, XP002485469 ISSN: 0008-6215 abstract, p. 194, lines 7 - 24, p. 198, line 3 - p. 201, line 3 -----	1-36	TECHNICAL FIELDS SEARCHED (IPC)
A	PERVIN A ET AL: "Separation of glycosaminoglycan-derived oligosaccharides by capillary electrophoresis using reverse polarity" ANALYTICAL BIOCHEMISTRY, vol. 221, no. 1, 1994, pages 182-188, XP002485470 ISSN: 0003-2697 abstract, p. 183 -184, "Materials and Methods", Fig 2 and 3, -----	1-36	
A	MALSCH R ET AL: "High-resolution capillary electrophoresis and polyacrylamide gel electrophoresis of heparins" JOURNAL OF CHROMATOGRAPHY, ELSEVIER SCIENCE PUBLISHERS B.V. AMSTERDAM, NL, vol. 716, no. 1, 17 November 1995 (1995-11-17), pages 259-268, XP004038588 ISSN: 0021-9673 * the whole document * ----- -/--	1-36	



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
P,A	SUNDARAM MALLIK ET AL: "Rational design of low-molecular weight heparins with improved in vivo activity." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 100, no. 2, 21 January 2003 (2003-01-21), pages 651-656, XP002485471 ISSN: 0027-8424 * abstract * -----	1-36	
			TECHNICAL FIELDS SEARCHED (IPC)



Claim(s) searched completely:
1-24,26,27

Claim(s) searched incompletely:
25,28-36

Claim(s) not searched:
40,41

Reason for the limitation of the search (non-patentable invention(s)):

,

Further limitation of the search

Claim(s) searched completely:
1-24,26,27

Claim(s) searched incompletely:
25,28-36

Claim(s) not searched:
40,41

Reason for the limitation of the search:

Claims 40 and 41 are unclear and lack an enabling disclosure to such an extent, that no search could be carried out for the claimed products. The products are defined in terms of an arbitrarily chosen peak number. A structural characterization of the saccharides has not been done (even mass data are missing). In the absence of comparable structural data, the only possibility to track said compounds resides in comparing the migration times (see fig 1 A). It is however commonly known that the migration time is greatly influenced by the system including (gel composition, sample preparation, electrophoresis buffer, applied voltage, type and diameter of the capillaries (cf. D3, fig 2; D4, fig 2 and p. 184 col. 1. line 14 - p. 186, col. 1, line 2). The description fails completely to identify under which conditions and with which instrumentation capillary electrophoresis ("CE") has been performed. Thus, the skilled person has no possibility to identify the claimed products and to compare them with prior art saccharides.

Claim 25 is unclear to such an extent that a meaningful search of the entire scope was not possible. The claimed analytical method is characterized in that "non-natural sugars" are determined, without any definition what these non-natural sugars are expected structurally to be. The search was therefore restricted to the methods as covered by dependent claims 26 and 27.



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims 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 the first ten claims.

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:
- ☒ 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).



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: 1-36,40,41

Method for the analysis of low molecular weight heparins ("LMWHs") characterized in that the presence and amount of selected CE peaks corresponding to saccharides not normally present in heparin is determined, and the corresponding saccharide products.

2. claims: 37-39

Compositional analysis of a mixed population of polysaccharides, characterized in that the population is assayed for specified relative contents of seven different saccharide components.

专利名称(译)	硫酸多糖的分析		
公开(公告)号	EP1518120A4	公开(公告)日	2008-08-13
申请号	EP2003744629	申请日	2003-03-11
[标]申请(专利权)人(译)	动量制药公司		
申请(专利权)人(译)	动量制药公司.		
当前申请(专利权)人(译)	动量制药公司.		
[标]发明人	VENKATARAMAN GANESH SASISEKHARAN RAM SUNDARAM MALIKARJUN SHRIVER ZACHARY QI YI WEI		
发明人	VENKATARAMAN, GANESH SASISEKHARAN, RAM SUNDARAM, MALIKARJUN SHRIVER, ZACHARY QI, YI-WEI		
IPC分类号	G01N33/53 G01N33/48 G01N33/66 G01N33/86		
CPC分类号	A61P11/00 A61P11/06 A61P11/16 A61P17/02 A61P17/06 A61P19/02 A61P19/08 A61P19/10 G01N33/66 G01N33/86 G01N2400/10 G01N2400/40 Y10T436/143333 Y10T436/17 Y10T436/24		
优先权	60/363240 2002-03-11 US 60/383903 2002-05-28 US 60/393973 2002-07-05 US		
其他公开文献	EP1518120A2		
外部链接	Espacenet		

摘要(译)

本发明涉及与分析 and 监测异质硫酸化多糖群相关的方法和产品。特别是描述了包括低分子量肝素产品的治疗性肝素产品以及分析和监测这些产品的方法。

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X	DESAI UMESH R ET AL: "Oligosaccharide composition of heparin and low molecular-weight heparins by capillary electrophoresis" ANALYTICAL BIOCHEMISTRY, vol. 213, no. 1, 1993, pages 120-127, XP002485465 ISSN: 0003-2697 * the whole document *	1-4
A	VENKATARAMAN G: "Sequencing complex polysaccharides" SCIENCE, WASHINGTON, DC, vol. 286, 15 October 1999 (1999-10-15), pages 537-542, XP002179570 ISSN: 0036-8075 * the whole document * -/-	1-36
The applicant's search has been based on the last set of claims valid at the date of publication of the application.		
INCOMPLETE SEARCH		
The search officer considers that the present application, or some or all of its claims, does/ do not comply with the EPC in such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for the following reasons:		
Claims searched completely:		
Claims searched incompletely:		
Claims not searched:		
Reason for the limitation of the search: see sheet C		
Place of search	Date of completion of the search	Searcher
Munich	30 June 2008	Hoesel, Heidi
CATEGORY OF CITED DOCUMENTS		
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: document of the same category D: document of the same category P: intermediate document		
I: theory or principle underlying the invention E: earlier patent document, not published on, or after, the filing date L: document cited in the application A: document cited for other reasons B: member of the same patent family, corresponding document		