



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
P,X	PEDERSEN SUSANNE K ET AL: "An immunoproteomic approach for identification of clinical biomarkers for monitoring disease: application to cystic fibrosis." MOLECULAR & CELLULAR PROTEOMICS : MCP AUG 2005, vol. 4, no. 8, August 2005 (2005-08), pages 1052-1060, XP002464102 ISSN: 1535-9476	1-22	INV. G01N33/50 G01N33/53 G01N33/68 A61K39/104 A61K39/40
T	* the whole document *	1-22	
X	US 6 551 795 B1 (RUBENFIELD MARC J [US] ET AL) 22 April 2003 (2003-04-22) * column 37 - column 42; sequence 30777 *	17-22	
P,A	WO 2005/001480 A (PROTEOME SYSTEMS INTELLECTUAL [AU]; PEDERSEN SUSANNE KARTIN [AU]; COLE) 6 January 2005 (2005-01-06) * page 80; claims 25,32,69,125,126,191; examples 4,5 *	1	
A	YOUNG S S ET AL: "Protection of an anaerobic Pseudomonas aeruginosa mutant lacking nitric oxide reductase by 2 oxygen-dependent enzymes; homogentisate-1,2-dioxygenase and 4-hydroxyphenylpyruvate dioxygenase." ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 103, 2003, pages B-396 URL, XP008087303 & 103RD AMERICAN SOCIETY FOR MICROBIOLOGY GENERAL MEETING; WASHINGTON, DC, USA; MAY 18-22, 2003 ISSN: 1060-2011 * abstract *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			G01N A61K
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search		Date of completion of the search	Examiner
The Hague		10 January 2008	Rosin, Oliver
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 (P04C04)



DOCUMENTS CONSIDERED TO BE RELEVANT							
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)				
A	WEST SUSAN E H ET AL: "Respiratory infections with pseudomonas aeruginosa in children with cystic fibrosis" JAMA THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, CHICAGO,IL, US, vol. 287, no. 22, 12 June 2002 (2002-06-12), pages 2958-2967, XP002967569 ISSN: 0098-7484 * the whole document *	1	<table border="1"> <tr> <td colspan="2">TECHNICAL FIELDS SEARCHED (IPC)</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	TECHNICAL FIELDS SEARCHED (IPC)			
TECHNICAL FIELDS SEARCHED (IPC)							
T	WO 2005/071108 A (CLONDIAG CHIP TECHNOLOGIES GMB [DE]; WAGNER GERD [DE]; WIEHLMANN LUTZ) 4 August 2005 (2005-08-04) * abstract *	1					
P,A	YOON SANG SUN ET AL: "Chronic Pseudomonas aeruginosa infection in cystic fibrosis airway disease: metabolic changes that unravel novel drug targets." EXPERT REVIEW OF ANTI-INFECTIVE THERAPY AUG 2004, vol. 2, no. 4, August 2004 (2004-08), pages 611-623, XP008087281 ISSN: 1478-7210 * the whole document *	1					
A	WAGNER V E ET AL: "MICROARRAY ANALYSIS OF PSEUDOMONAS AERUGINOSA QUORUM-SENSING REGULONS: EFFECTS OF GROWTH PHASE AND ENVIRONMENT" JOURNAL OF BACTERIOLOGY, WASHINGTON, DC, US, vol. 185, no. 7, April 2003 (2003-04), pages 2080-2095, XP008047722 ISSN: 0021-9193 * the whole document *	1					
<p>The supplementary search report has been based on the last set of claims valid and available at the start of the search.</p>							
Place of search		Date of completion of the search	Examiner				
The Hague		10 January 2008	Rosin, Oliver				
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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  .....  &amp; : member of the same patent family, corresponding document</p>							

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EPO FORM 1503 03.82 (P04C04)



### 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, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the ferric iron-binding protein (HitA) or antibodies thereto.

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2. claims: 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the thioredoxin dependent reductase protein (PAPS) or antibodies thereto.

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3. claims: 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the thioredoxin protein or antibodies thereto.

---

4. claims: 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the heat shock protein GroES or antibodies thereto.

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5. claims: 1-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the nucleotide dependent kinase (NDK) protein or antibodies thereto.

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6. claims: 1, 3-8 and 10-22 [all in part]



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:

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the DNA binding protein HU or antibodies thereto.

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The application as filed is considered to lack unity of invention since its subject-matter relates not to one, but rather to 6 separate inventions not linked together by a single general inventive concept as required by Article 82 and Rule 44 EPC.

According to Rule 44 EPC, a European patent application must relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. Unity of invention is fulfilled only when there is a technical relationship among the inventions involving one or more of the same or corresponding special technical features. Special technical features are such features that define the contribution of the claimed invention over the prior art.

The closest prior art document W02005/001480 A1 (hereinafter called D1) discloses a method of diagnosing an infection by *Pseudomonas aeruginosa* in a subject comprising detecting proteins or antibodies thereto as well as the medical use of these in proteins (Ex 4 and 5; cls 25, 32, 69, and 125-126; p80).

The contributions claimed in the present application which are allegedly made over the prior art may be grouped together as follows:

Invention 1: Claims 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the ferric iron-binding protein (HitA) or antibodies thereto.

Invention 2: Claims 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the thioredoxin dependent reductase protein (PAPS) or antibodies thereto.

Invention 3: Claims 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the thioredoxin protein or antibodies thereto.

Invention 4: Claims 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the heat shock protein GroES or antibodies thereto.

Invention 5: Claims 1-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the nucleotide dependent kinase



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:

(NDK) protein or antibodies thereto.

Invention 6: Claims 1, 3-8 and 10-22 [all in part]

A method of diagnosing, determining the response or diagnosing an acute pulmonary exacerbation of a subject having an infection by *Pseudomonas aeruginosa*, uses, vaccines or kits using the DNA binding protein HU or antibodies thereto.

The technical problems that are solved by said contributions are the provisions of methods, uses, vaccines or kits involving *Pseudomonas aeruginosa* proteins.

These contributions are not so linked to form a single general inventive concept in the sense of Article 82 and Rule 44 EPC. The reasons therefor are the following:

The identified 6 inventions involve the single general concept of "Pseudomonas aeruginosa proteins in infection". However, this single general concept does not define a contribution over the prior art. *Pseudomonas aeruginosa* proteins in infection, e.g. for the diagnosis of infection or as pharmaceutical compounds are known from D1 (see passages cited above). Thus the single general concept linking the alleged inventions is not new/inventive. Therefore, there is no single general inventive concept that links the claimed inventions, which results in non-unity of invention in the sense of Article 82 EPC Rule 44 EPC.

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

EP 05 75 4328

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.

10-01-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6551795 B1	22-04-2003	US 2007020624 A1	25-01-2007
WO 2005001480 A	06-01-2005	EP 1642136 A1	05-04-2006
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		EP 1711627 A2	18-10-2006

专利名称(译)	治疗p的新方法。铜绿假单胞菌感染及其试剂		
公开(公告)号	<a href="#">EP1766391A4</a>	公开(公告)日	2008-02-20
申请号	EP2005754328	申请日	2005-06-28
[标]申请(专利权)人(译)	PROTCOME SYST INTPROP		
[标]发明人	SLOANE ANDREW JOHN PEDERSEN SUSANNE KARTIN WEINBERGER RON		
发明人	SLOANE, ANDREW JOHN PEDERSEN, SUSANNE KARTIN WEINBERGER, RON		
IPC分类号	G01N33/50 G01N33/53 G01N33/68 A61K39/104 A61K39/40		
CPC分类号	C07K16/1214 G01N33/56911 G01N2333/21		
优先权	2004903521 2004-06-28 AU		
其他公开文献	EP1766391A1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明涉及用于通过铜绿假单胞菌感染动物受试者(例如人)的新型诊断,预后和治疗试剂,以及与此类感染相关的病症,例如囊性纤维化(CF)中的急性临床恶化。学科。特别地,本发明涉及用于诊断/预测受试者中铜绿假单胞菌感染的方法,包括检测样品中铜绿假单胞菌的一种或多种蛋白质或其片段或表位或其抗体的存在或量。来自主题。

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
P.X	PEDERSEN SUSANNE K ET AL: "An immunoproteomic approach for identification of clinical biomarkers for monitoring disease: application to cystic fibrosis. MOLECULAR & CELLULAR PROTEOMICS : MCP AUG 2005, vol. 4, no. 8, August 2005 (2005-08), pages 1052-1060, XP002464102 ISSN: 1535-9476 * the whole document *	1-22	INV. G01N33/50 G01N33/53 G01N33/68 A61K39/104 A61K39/40
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X	WO 2005/001480 A (PROTEOME SYSTEMS INTELLECTUAL [AU]; PEDERSEN SUSANNE KARTIN [AU]; COLE) 6 January 2005 (2005-01-06) page 80; claims 25,32,69,125,126,191; examples 4,5 *	1	
P.A	YON S S ET AL: "Protection of an anaerobic Pseudomonas aeruginosa mutant lacking nitric oxide reductase by 2 oxygen-dependent enzymes: homogenitate-1,2-dioxygenase and 4-hydroxyphenylpyruvate dioxygenase." ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 103, 2003, pages B-396 URL. XP006057303 & 103RD AMERICAN SOCIETY FOR MICROBIOLOGY GENERAL MEETING; WASHINGTON, DC, USA; MAY 18-22, 2003 ISSN: 1060-2011 * abstract *	1	TECHNICAL FIELDS SEARCHED (IPC) G01N A61K
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Date of search The Hague		Date of completion of the search 10 January 2008	Inventor Rosin, Oliver
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant document Y : particularly relevant & cited with another document of the same category A : technological background D : non-written document I : intermediate document T : priority to procedure underlying the invention E : earlier patent document, but published on, or after, the filing date O : document cited in the application L : document cited for other reasons & : inventor of the same patent family, corresponding document			