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**A61K 38/04** <sup>(2006.01)</sup>

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(62) Document number(s) of the earlier application(s) in  
accordance with Art. 76 EPC:  
**02743705.2 / 1 473 564**

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(54) **Method of detecting cellular immunity and application thereof to drugs**

(57) The present invention relates to a tailored pharmaceutical composition for use in treating a target disease in a patient, comprising two or more different antigen peptides, wherein at least one antigen peptide is derived from an antigen protein and at least a second antigen peptide is derived from a different antigen protein, both of said antigen proteins are related to the target disease in the patient, and the second antigen peptide is not included in the first antigen protein, wherein the antigen peptides have been selected by a method comprising the steps of (a) collecting peripheral blood mononuclear cells; (b) stimulating the collected peripheral

blood mononuclear cells with antigen peptide candidates, said candidates being thought to be related to the target disease; (c) determining which antigen peptide candidate induced antigen-specific T cells; and (d) selecting two or more antigen peptide candidates which induced antigen-specific T cells as the antigen peptides to be administered to the patient; wherein the step of stimulating the peripheral blood mononuclear cells in process (b) is performed without directly using antigen presenting cells, and wherein the target disease cancer.

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**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

under Rule 62a and/or 63 of the European Patent Convention.  
This report shall be considered, for the purposes of subsequent proceedings, as the European search report

EP 09 01 2819

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	SCHMIDT WALTER ET AL: "Cell-free tumor antigen peptide-based cancer vaccines" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 94, no. 7, 1997, pages 3262-3267, XP002608763 ISSN: 0027-8424 * figures 2,3 *	1-3	INV. G01N33/53 C07K7/06 A61K38/04
E	----- EP 1 306 431 A1 (ITOH KYOGO [JP] GREEN PEPTIDE CO LTD [JP]) 2 May 2003 (2003-05-02) * claims 4,5,20; example 5; sequences 9,10,17,18 * -----	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			G01N
<b>INCOMPLETE SEARCH</b>			
The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.			
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	Examiner
Munich		9 November 2010	Fleitmann, J
CATEGORY OF CITED DOCUMENTS		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	
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			

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EPO FORM 1503 03.82 (P04E07)

**INCOMPLETE SEARCH  
SHEET C**Application Number  
EP 09 01 2819

Claim(s) searched incompletely:  
1-3

Reason for the limitation of the search:

Claims 1-3 do not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not defined. The claims attempt to define the subject-matter in terms of the result to be achieved. Such a definition is only allowable under the conditions elaborated in the Guidelines C-III, 4.10. In this instance, however, such a formulation is not allowable because the functional statements do not enable the skilled person to reduce to practice a definition of the claimed subject-matter because the peptides of the composition claimed have potentially limitless structural possibilities. Thus there is absolutely no limit to the structural variation in the peptides which might act as cancer antigens.

Claim 1 does not meet the requirements of Article 84 EPC in that the claim attempts to define the product in terms of a screening method. Such a definition is only allowable under the conditions elaborated in the Guidelines C-III, 4.12. In this instance, however, such a formulation is not allowable because it appears that the product is not novel and that it is possible to define the subject-matter in more concrete terms. According to Article 83 and Rule 42(1)(c) EPC, (see also Guidelines C-II, 4.1, 4.9, 4.11) the claim must contain sufficient technical disclosure of the solution to the problem, which is not the case here as no effective pointer to the identity of the peptides and the combinations thereof is provided. It would be an undue burden to prepare all potential peptide antigen combinations or to test every known and every conceivable future combination of peptides for their activity to see if they fall within the scope of the claim. Due to the lack of support the application does not enable the skilled person to carry out the invention over the whole claimed area.

The search is limited to peptides ppMAPkkk294, ppMAPkkk432, WHSC2103 and HNRPL501.



Application Number

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**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:  
1-3 (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 09 01 2819

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(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from ppMAPkkk294, ppMAPkkk432, WHSC2103, HNRPL501 (example 15)

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2. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from SART2 161, SART2 889, Ick208, ART4 34 (example 16)

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3. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from SART1 690, SART3 109, Ick448 (example 16)

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4. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from SART2 93, ART1 170, SART2 899, SART3 109, Ick208 (example 18)

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5. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from CypB84 and Ick486 (example 20)

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6. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens selected from Ick488, SART1690, SART2 161, SART3 315 and ART 475 (example 20)

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7. claims: 1-3(partially)

A tailored pharmaceutical composition for use in treating cancer comprising two peptide antigens not covered by inventions 1-6

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

EP 09 01 2819

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.

09-11-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1306431	A1	02-05-2003	
		AT 389668 T	15-04-2008
		AU 2749802 A	13-02-2002
		CA 2417570 A1	31-01-2003
		DE 60133287 T2	26-03-2009
		ES 2304398 T3	16-10-2008
		WO 0210369 A1	07-02-2002
		US 2003175288 A1	18-09-2003
		US 2007031431 A1	08-02-2007
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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	检测细胞免疫的方法及其在药物中的应用		
公开(公告)号	<a href="#">EP2192407A3</a>	公开(公告)日	2011-04-27
申请号	EP2009012819	申请日	2002-06-24
申请(专利权)人(译)	绿色肽CO., LTD.		
当前申请(专利权)人(译)	绿色肽CO., LTD.		
[标]发明人	ITO KYOGO		
发明人	ITO, KYOGO		
IPC分类号	G01N33/53 C07K7/06 A61K38/04 G01N33/50		
CPC分类号	A61K39/0011 A61K39/35 G01N33/5011 G01N33/505 A61K39/001178		
代理机构(译)	法思博事务所		
优先权	2001283413 2001-09-18 JP		
其他公开文献	EP2192407A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明涉及用于治疗患者的靶疾病的定制药物组合物，其包含两种或更多种不同的抗原肽，其中至少一种抗原肽衍生自抗原蛋白，并且至少第二种抗原肽衍生自不同的抗原蛋白，两种所述抗原蛋白都与患者的目标疾病有关，第二抗原肽不包括在第一抗原蛋白中，其中抗原肽是通过包括以下步骤的方法选择的：(a) 收集外周血单核细胞；(b) 用抗原肽候选物刺激收集的外周血单核细胞，所述候选被认为与目标疾病有关；(c) 确定哪种抗原肽候选物诱导抗原特异性T细胞；(d) 选择两种或多种诱导抗原特异性T细胞的抗原肽候选物作为抗原肽给予患者；其中，在不直接使用抗原呈递细胞的情况下进行刺激过程(b)中的外周血单核细胞的步骤，并且其中靶疾病是癌症。

 European Patent Office Office de brevets Europäische Patentamt Ufficio Brevetti		<b>PARTIAL EUROPEAN SEARCH REPORT</b> Under Rule 62a and/or 63 of the European Patent Convention. This report shall be considered, for the purposes of subsequent proceedings, as the European search report		Application Number <b>EP 09 01 2819</b>
<b>DOCUMENTS CONSIDERED TO BE RELEVANT</b> <small>Citation of documents with indication, where appropriate, of relevant passages. Referenced to claim.</small>				
Category		Referenced to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
X	SCHMIDT WALTER ET AL.: "Cell-free tumor antigen peptide-based cancer vaccines." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 94, no. 7, 1997, pages 3262-3267, XP02068753 ISSN: 0027-8424 Figures: 2, 3	1-3	INV. G01N33/53 C07K7/06 A61K38/04	
E	EP 1 306 431 A1 (ITO KYOGO [JP] GREEN PEPTIDE CD LID [JP]) 2 May 2003 (2003-05-02) Claims 4, 5, 20; example 5; sequences 9, 10, 17, 18	1-3	TECHNICAL FIELD (IPC) G01N	
<b>INCOMPLETE SEARCH</b> <small>The European Patent Office has not searched the present application, or one or more of its claims, under the EPC or the EPC as it only a partial search (Rule 62b, 63) has been carried out.</small>				
Claims searched completely: Claims not searched: Reason for the limitation of the search: <b>see sheet C</b>				
Place of search <b>Munich</b>		Date of completion of the search <b>9 November 2010</b>		Examiner <b>Fleitzmann, J</b>
<b>CATEGORY OF CITED DOCUMENTS</b> <small>1: freely available underlying the invention; 2: underlying the invention, but not published; 3: not the first file; 4: document cited to the applicant; 5: document cited for other reasons; 6: member of the same patent family, corresponding document</small>				
1: particularly relevant to the claims 2: particularly relevant & comparable with another document of the same category 3: document cited for other reasons 4: non-written document 5: intermediate document				