



(11) **EP 1 729 135 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
02.07.2008 Bulletin 2008/27

(51) Int Cl.:
G01N 33/74 (2006.01) G01N 33/78 (2006.01)
C07K 16/26 (2006.01) G01N 33/68 (2006.01)

(43) Date of publication A2:
06.12.2006 Bulletin 2006/49

(21) Application number: **06008181.7**

(22) Date of filing: **13.01.2000**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

(72) Inventors:
• **Cantor, Thomas Leslie**
El Cajon, CA 92020 (US)
• **Gao, Ping**
San Diego, CA 92129 (US)

(30) Priority: **14.01.1999 US 231422**
26.06.1999 US 344639

(74) Representative: **Atkinson, Jennifer**
Barker Brettell LLP
138 Hagley Road
Edgbaston
Birmingham
B16 9PW (GB)

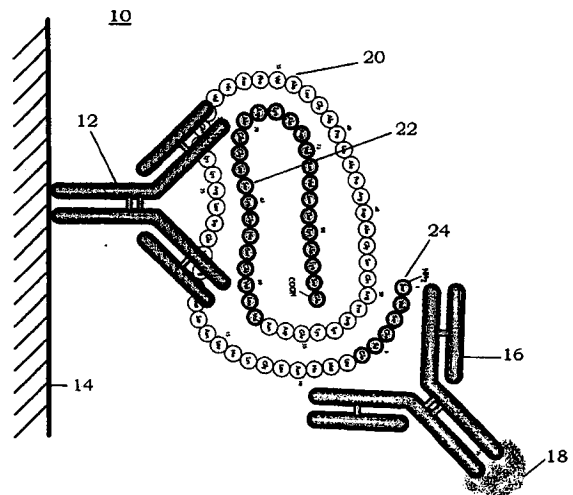
(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
00902406.8 / 1 151 307

(71) Applicant: **Scantibodies Laboratory, Inc.**
Santee, CA 92071 (US)

(54) **Methods for differentiating and monitoring parathyroid and bone status related diseases**

(57) The present invention relates to novel methods and devices for differentiating in a patient parathyroid diseases, such as hyperparathyroidism and related bone diseases, from normal or non-disease states. One detects whole or non-fragmented (1 to 84) parathyroid hormone in a biological sample and also a large non-whole parathyroid hormone peptide fragment that can function as a parathyroid hormone antagonist. By either comparing values or using independently the value of either the large non-whole parathyroid hormone peptide fragment, the whole parathyroid hormone, or the combination of these values one is able to differentiate parathyroid and bone related disease states, as well as differentiate such states from normal states.

FIG. 2



EP 1 729 135 A3



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	BROSSARD J-H ET AL: "ACCUMULATION OF A NON-(1-84) MOLECULAR FORM OF PARATHYROID HORMONE (PTH) DETECTED BY INTACT PTH ASSAY IN RENAL FAILURE: IMPORTANCE IN THE INTERPRETATION OF PTH VALUES" JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, ENDOCRINE SOCIETY, CHEVY CHASE, MD, US, vol. 81, no. 11, 1996, pages 3923-3929, XP002928301 ISSN: 0021-972X * abstract * * page 3924, column 2, paragraphs 1,4 * * page 3927, column 2, paragraph 4 *	1-3,5,7,8,10	INV. G01N33/74 G01N33/78 C07K16/26 G01N33/68
A	GAO P ET AL: "IMMUNOCHEMILUMINOMETRIC ASSAY WITH TWO MONOCLONAL ANTIBODIES AGAINST THE N-TERMINAL SEQUENCE OF HUMAN PARATHYROID HORMONE" CLINICA CHIMICA ACTA, AMSTERDAM, NL, vol. 245, no. 1, 9 February 1996 (1996-02-09), pages 39-59, XP001014316 ISSN: 0009-8981 * abstract * * page 46 *		TECHNICAL FIELDS SEARCHED (IPC) G01N C07K

-/--			
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 May 2008	Examiner Stricker, J
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	

6
EPO FORM 1503 03.02 (P04C01)



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	<p>MAEGERLEIN M ET AL: "A NEW IMMUNOENZYMOMETRIC ASSAY FOR BIOACTIVE N-TERMINAL HUMAN PARATHYROID HORMONE FRAGMENTS AND ITS APPLICATION IN PHARMACOKINETIC STUDIES IN DOGS" ARZNEIMITTEL FORSCHUNG. DRUG RESEARCH, EDITIO CANTOR. AULENDORF, DE, vol. 48, no. 2, 1998, pages 199-204, XP001010446 ISSN: 0004-4172 * abstract * *Chapter 2.3 on p.200* *Chapter 2.6 on p.201*</p>	17-20	
A	<p>LEPAGE R ET AL: "A NON-(1-84) CIRCULATING PARATHYROID HORMONE (PTH) FRAGMENT INTERFERES SIGNIFICANTLY WITH INTACT PTH COMMERCIAL ASSAY MEASUREMENTS IN UREMIC SAMPLES" CLINICAL CHEMISTRY, AMERICAN ASSOCIATION FOR CLINICAL CHEMISTRY, WASHINGTON, DC, US, vol. 44, no. 4, 1998, pages 805-809, XP002928302 ISSN: 0009-9147 * abstract * *Chapter "Assays" on p.806* * page 808, column 1, paragraph 3 - column 2, paragraph 1 *</p>		TECHNICAL FIELDS SEARCHED (IPC)
E	<p>WO 01/44818 A (IMMUNDIAGNOSTIK AG [DE]; ARMBRUSTER FRANZ PAUL [DE]; MISSBICHLER ALBER) 21 June 2001 (2001-06-21) * abstract * * page 6 * * page 7, line 15 * * example 1 * * claim 1 *</p>	17-20	

-/--			
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 May 2008	Examiner Stricker, J
<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 & : member of the same patent family, corresponding document</p>	

6
EPO FORM 1503 03.02. (P04C01)



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 96/10041 A (FORSSMANN WOLF GEORG [DE]; ADERMANN KNUT [DE]; HOCK DIETER [DE]; MAEGE) 4 April 1996 (1996-04-04) * abstract * * pages 3-6 * -----	17-20	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 May 2008	Examiner Stricker, J
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	

6
EPO FORM 1503 03.82 (P04C01)

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

EP 06 00 8181

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.

05-05-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0144818 A	21-06-2001	AU 2674601 A	25-06-2001
		DE 19961350 A1	21-06-2001
		EP 1240527 A2	18-09-2002
		US 2003175802 A1	18-09-2003

WO 9610041 A	04-04-1996	AT 210151 T	15-12-2001
		DE 4434551 A1	04-04-1996
		EP 0783522 A1	16-07-1997
		JP 10509419 T	14-09-1998
		JP 3457004 B2	14-10-2003
		US 6030790 A	29-02-2000

专利名称(译)	鉴别和监测甲状旁腺和骨骼状态相关疾病的方法		
公开(公告)号	EP1729135A3	公开(公告)日	2008-07-02
申请号	EP2006008181	申请日	2000-01-13
[标]申请(专利权)人(译)	SCANTIBODIES LAB		
申请(专利权)人(译)	SCANTIBODIES实验室, INC.		
当前申请(专利权)人(译)	SCANTIBODIES实验室, INC.		
[标]发明人	CANTOR THOMAS LESLIE GAO PING		
发明人	CANTOR, THOMAS LESLIE GAO, PING		
IPC分类号	G01N33/74 G01N33/78 C07K16/26 G01N33/68 G01N33/53 C07K14/635		
代理机构(译)	阿特金森JENNIFER		
优先权	09/231422 1999-01-14 US 09/344639 1999-06-26 US		
其他公开文献	EP1729135A2		
外部链接	Espacenet		

摘要(译)

本发明涉及用于区分患者甲状旁腺疾病(例如甲状旁腺功能亢进和相关骨病)的正常或非疾病状态的新方法和装置。人们可以检测生物样本中的全部或非碎片(1至84)甲状旁腺激素,以及可以作为甲状旁腺激素拮抗剂起作用的大型非整体甲状旁腺激素肽片段。通过比较值或独立地使用大的非整体甲状旁腺激素肽片段,整个甲状旁腺激素或这些值的组合的值,能够区分甲状旁腺和骨相关疾病状态,以及区分这些状态来自正常状态。

FIG. 2

