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(54) **Heteroduplex tracking assay**

(57) A change in viral tropism occurs in many HIV positive individuals over time and may be indicated by a shift in coreceptor use from CCR5 to CXCR4. The shift in coreceptor use to CXCR4 has been shown to correlate with increased disease progression. In patients undergoing HAART, the predominant populations of virus may be shifted back to CCR5-mediated entry soon after the CXCR4-specific strains have emerged. The present invention relates to a diagnostic method to monitor coreceptor use in the treatment and clinical management of human immunodeficiency virus (HIV) infection. The present invention further relates to a diagnostic method

applied to HIV-positive individuals undergoing HAART to monitor the suppression of CCR5- or CXCR4-specific strains. The diagnostic methods may be used to assist in selecting antiretroviral therapy and to improve predictions of disease prognosis over time. The methods of the invention include cell-based methods, including cell fusion assays, and molecular-based methods, including heteroduplex tracking assay, to both quantitatively and qualitatively analyze patient-derived HIV for coreceptor usage.

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 6 727 060 B2 (PHILPOTT SEAN [US] ET AL) 27 April 2004 (2004-04-27) * column 21; table 1 * -----	1-18	INV. C12Q1/68 C12Q1/70 G01N33/53
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A	SCHROEDER TAMARA L ET AL: "Characterization of intersubtype recombinant HIV type 1 genomes using a nonradioactive heteroduplex tracking assay." AIDS RESEARCH AND HUMAN RETROVIRUSES APR 2005, vol. 21, no. 4, April 2005 (2005-04), pages 314-318, XP002540202 ISSN: 0889-2229 * the whole document * -----		
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The present search report has been drawn up for all claims			
1	Place of search Munich	Date of completion of the search 7 August 2009	Examiner Persson, Anna
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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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 August 2009	Examiner Persson, Anna
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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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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

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当前申请(专利权)人(译)	健康研究公司.		
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其他公开文献	EP2025762A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

随着时间的推移,许多HIV阳性个体发生病毒趋向性的变化,并且可能表现为辅助受体使用从CCR5向CXCR4的转变。已显示辅助受体使用向CXCR4的转变与疾病进展的增加相关。在接受HAART的患者中,在CXCR4特异性菌株出现后不久,主要的病毒群可能很快转回CCR5介导的进入。本发明涉及一种监测辅助受体在人免疫缺陷病毒(HIV)感染的治疗和临床管理中的诊断方法。本发明进一步涉及应用于经历HAART的HIV阳性个体的诊断方法,以监测CCR5或CXCR4特异性菌株的抑制。诊断方法可用于帮助选择逆转录病毒疗法并改善疾病预后随时间的预测。本发明的方法包括基于细胞的方法,包括细胞融合测定,和基于分子的方法,包括异源双链体追踪测定,以定量和定性分析患者来源的HIV用于辅助受体使用。

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Y	NELSON J A E ET AL: "Patterns of changes in human immunodeficiency virus type 1 V3 sequence populations: late in infection" JOURNAL OF VIROLOGY, THE AMERICAN SOCIETY FOR MICROBIOLOGY, US, vol. 74, no. 18, 1 September 2000 (2000-09-01), pages 6494-8501, XP002490002 ISSN: 0022-538X * the whole document *	1-18		
A	SCHROEDER TAMARA L ET AL: "Characterization of intersubtype recombinant HIV type 1 genomes using a non-radioactive heteroduplex tracking assay" AIDS RESEARCH AND HUMAN RETROVIRUSES APR 2005, vol. 21, no. 4, April 2005 (2005-04), pages 314-318, XP002540202 ISSN: 0889-2229 * the whole document *		TECHNICAL FIELD SEARCHED ** (IPC) C12Q G01N	
A	FREEL S A ET AL: "Characterization of human immunodeficiency virus type 1 in saliva and blood plasma by V3-specific heteroduplex tracking assay and genotype analyses" JOURNAL OF VIROLOGY MAY 2001, vol. 75, no. 10, May 2001 (2001-05), pages 4936-4940, XP00244351 ISSN: 0022-538X * the whole document *	-/--		
The present search report has been drawn up for all claims				
Date of search <b>Munich</b>		Date of classification <b>7 August 2009</b>		Examiner <b>Persson, Anna</b>
CATEGORIES OF CITED DOCUMENTS A: prior art documents which are relevant to the invention Y: prior art documents which are relevant to the invention and which are cited in the application X: prior art documents which are relevant to the invention and which are cited in the application * the whole document *			I: theory or principle underlying the invention E: earlier patent document, not published on, or after, the filing date O: document cited in the application L: document cited for other reasons A: member of the same patent family, corresponding document	