



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C07H 21/04, C12Q 1/68, G01N 33/53	A3	(11) International Publication Number: WO 00/22093 (43) International Publication Date: 20 April 2000 (20.04.00)
(21) International Application Number: PCT/US99/22121 (22) International Filing Date: 23 September 1999 (23.09.99) (30) Priority Data: 60/101,497 23 September 1998 (23.09.98) US Not furnished 23 September 1999 (23.09.99) US (71) Applicant: CLEVELAND CLINIC FOUNDATION [US/US]; 9500 Euclid Avenue, Cleveland, OH 44195 (US). (72) Inventors: SILVERMAN, Robert, H.; 24607 Letchworth Road, Beachwood, OH 44122 (US). WILLIAMS, Bryan, R., G.; 2909 Fairfax Road, Cleveland, OH 44118 (US). DER, Sandy; 1900 West 25th Street, #301-Box 8, Cleveland, OH 44114 (US). (74) Agent: DOCHERTY, Pamela, A.; Calfee, Halter & Griswold LLP, 1400 McDonald Investment Center, 800 Superior Avenue, Cleveland, OH 44114 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 23 November 2000 (23.11.00)
(54) Title: NOVEL INTERFERON STIMULATED AND REPRESSED GENES		
(57) Abstract Methods and model systems for identifying and characterizing new therapeutic agents, particularly proteins, which mimic the activity of all interferons, Type I interferons, IFN- α , IFN- β , or IFN- γ . The method comprises administering an interferon selected from the group consisting of IFN- α , IFN- β , IFN- τ , IFN- ω , IFN- γ , and combinations thereof to cultured cells, administering the candidate agent to a duplicate culture of cells; and measuring the effect of the candidate agent and the interferon on the transcription or translation of one or, preferably, a plurality of the interferon stimulated genes or the interferon repressed genes (hereinafter referred to as "ISGs" and "IRGs", respectively). The model system is an array with gene probes that hybridize with from about 100 to about 5000 ISG and IRG transcripts. Methods for identifying and characterizing new therapeutic agents which block the activity of all interferons, Type I interferons, or IFN- γ are also provided.		


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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/22121

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) : C07H 21/04; C12Q 1/68; G01N 33/53 US CL : 435/6, 7.2; 536/23.1, 24.3 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/6, 7.2; 536/23.1, 24.3		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WEST, MEDLINE, EMBASE, BIOSIS, CAPLUS		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FU, X.-Y. A direct signaling pathway through tyrosine kinase activation of SH2 domain-containing transcription factors. Journal of Leukocyte Biology. April 1995, Vol. 57, pages 529-535, see whole reference.	1-31
Y	DAVID, M. et al. A Nuclear Tyrosine Phosphatase Downregulates Interferon-Induced Gene Expression. Molecular and Cellular Biology. December 1993, Vol. 13, No. 12, pages 7515-7521, especially page 7517, Figure 1.	1-31
Y	US 5,700,637 A (SOUTHERN) 23 December 1997 (23.12.1997), see entire document, especially column 10, line 15-column 11, line 4.	1-31
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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Date of the actual completion of the international search 09 MAY 2000		Date of mailing of the international search report 19 JUL 2000
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INTERNATIONAL SEARCH REPORT

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97/10365 A1 (AFFYMAX TECHNOLOGIES N.V.) 20 March 1997 (20.03.1997), see entire document, especially page 77, line 23 to page 78, line 15.	1-31