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(51) International Patent Classification ⁵ : C12Q 1/68 // A61K 31/135	A3	(11) International Publication Number: WO 92/17152 (43) International Publication Date: 15 October 1992 (15.10.92)
(21) International Application Number: PCT/US92/02582 (22) International Filing Date: 31 March 1992 (31.03.92) (30) Priority data: 678,683 1 April 1991 (01.04.91) US (71) Applicant: PRESIDENT AND FELLOWS OF HARVARD COLLEGE [US/US]; 17 Quincy Street, Cambridge, MA 02138 (US). (72) Inventor: POTTER, Huntington ; 65 Park Drive, Boston, MA 02215 (US). (74) Agents: GRANAHAN, Patricia et al.; Hamilton, Brook, Smith & Reynolds, Two Militia Drive, Lexington, MA 02173 (US).		(81) Designated States: AT (European patent), BE (European patent), CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), IT (European patent), JP, LU (European patent), MC (European patent), NL (European patent), SE (European patent). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 12 November 1992 (12.11.92)
(54) Title: METHOD FOR DETECTING AND TREATING ALZHEIMER'S DISEASE (57) Abstract The subject matter of this disclosure relates to Alzheimer's Disease and to somatic mosaicism of cells trisomic for chromosome 21. Methods for detecting trisomy 21 mosaicism and methods for preventing the onset of dementia are also described.		

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⁺ Any designation of "SU" has effect in the Russian Federation. It is not yet known whether any such designation has effect in other States of the former Soviet Union.

INTERNATIONAL SEARCH REPORT

International Application N

PCT/US 92/02582

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC Int.Cl. 5 C12Q1/68; // A61K31/135		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	C12Q	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X	LANCET THE. 22 July 1989, LONDON GB page 229; I.F. ROWE ET AL.: 'Presenile dementia associated with mosaic trisomy 21 in a patient with a Down syndrome child' cited in the application see the whole document ---	1
Y	LANCET THE. 23 September 1989, LONDON GB page 743; J. HARDY ET AL.: 'Presenile dementia associated with mosaic trisomy 21 in a patient with a Down syndrome child' cited in the application see the whole document --- -/-	1-4, 6
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IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
14 SEPTEMBER 1992	05. 10. 92	
International Searching Authority	Signature of Authorized Officer	
EUROPEAN PATENT OFFICE	LUZZATTO E. R.	

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category °	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
Y	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA. vol. 85, December 1988, WASHINGTON US pages 9664 - 9668; P.LICHTER ET AL.: 'Rapid detection of human chromosome 21 aberrations by in situ hybridisation' cited in the application see abstract see " Discussion " ---	1,2
Y	NATURE. vol. 337, 23 February 1989, LONDON GB pages 736 - 739; B.R.TALAMO ET AL.: 'Pathological changes in olfactory neurons in patients with Alzheimer's disease' cited in the application see the whole document ---	1,3
Y	CLINICAL NEUROPHARMACOLOGY vol. 13, no. 3, June 1990, NEW YORK, USA pages 241 - 247; R.INZELBERG ET AL.: 'Effects of atropine on learning and memory functions in dementia' cited in the application see the whole document, especially page 246, lines 8 to 13 ---	1,4,6
A	IQBAL K. ET AL. EDS 'Progress in clinical and biological research, vol.317' 1989 , ALAN R. LISS, INC. , NEW YORK, USA " Alzheimer's disease and related disorders " M.S. SCHWEBER " Alzheimer's disease and Down syndrome " pages 247-267 see page 248, lines 16 to 19; from page 254, line30 to page 259, line 28 and "Summary " ---	1
P,X	AMERICAN JOURNAL OF HUMAN GENETICS vol. 48, no. 6, June 1991, CHICAGO, USA pages 1192 - 1200; H.POTTER: 'Review and hypothesis: Alzheimer disease and Down syndrome-Chromosome 21 nondisjunctions may underlie both disorders' see the whole document, especially page 1197, from left column, line 40 to right column, line 40 ---	1