

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C07H 21/04, C12N 5/12, 5/16, 5/22, 15/00, 15/07, C12P 21/00, C12Q 1/68, C07K 14/00, 16/18, 16/44, A61K 48/00	A1	(11) International Publication Number: WO 95/26973 (43) International Publication Date: 12 October 1995 (12.10.95)
(21) International Application Number: PCT/US95/04063 (22) International Filing Date: 30 March 1995 (30.03.95) (30) Priority Data: 08/219,842 30 March 1994 (30.03.94) 08/397,808 3 March 1995 (03.03.95) (60) Parent Applications or Grants (63) Related by Continuation US 08/219,842 (CIP) Filed on 30 March 1994 (30.03.94) US 08/397,808 (CIP) Filed on 3 March 1995 (03.03.95) (71) Applicant (for all designated States except US): APPLIED GENETICS, INC. [US/US]; Suite A, 11494 Sorrento Valley Road, San Diego, CA 92121 (US). <i>See Notification</i> <i>of a change of Name</i> (72) Inventors; and (75) Inventors/Applicants (for US only): HERRNSTADT, Corinna [DE/US]; 3628 Ruelle DeVille, San Diego, CA 92130 (US). PARKER, William, Davis [US/US]; 1680 Old Ballard Road, Charlottesville, VA 22901 (US). DAVIS, Robert, E.	[US/US]; 13272 Glen Cliff Way, San Diego, CA 92130 (US). MILLER, Scott, William [US/US]; Apartment #08, 781 S. Nardo Road, Solana Beach, CA 92075 (US). (74) Agents: MacWRIGHT, Robert, S. et al.; Kenyon & Kenyon, One Broadway, New York, NY 10004 (US). (81) Designated States: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG). Published With international search report. <i>RTMP</i>	
(54) Title: DIAGNOSIS, THERAPY AND CELLULAR AND ANIMAL MODELS FOR DISEASES ASSOCIATED WITH MITOCHON- DRIAL DEFECTS (57) Abstract The present invention relates to genetic mutations in mitochondrial cytochrome c oxidase genes that segregate with Alzheimer's disease (AD), diabetes mellitus, Parkinson's disease and other diseases of mitochondrial origin. The invention provides methods for detecting these mutations, either before or after the onset of clinical symptoms. The invention further provides treatment of cytochrome c oxidase dysfunction. Cybrid cell lines which have utility as model systems for the study of disorders that are associated with mitochondrial defects are also described. The cybrids are constructed by treating immortal cell lines with an agent that irreversibly disables mitochondrial electron transport, and then transfecting the cells with mitochondria isolated from diseased tissue samples. One such cybrid was constructed using neuroblastoma cells and mitochondria from a patient suffering from Alzheimer's Disease. Methods for using such cybrids for screening drugs and therapies for utility in treating such disorders are also provided. In addition, cybrid animals, methods of producing them, and methods of using them in drug and therapy screening are also provided.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgyzstan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LU	Luxembourg	TD	Chad
CS	Czechoslovakia	LV	Latvia	TG	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

96 1 16 04 - 1