



BULLETIN



CANADIAN GENETIC DISEASES NETWORK

SECOND GENE FOR EARLY ONSET ALZHEIMER'S DISEASE DISCOVERED BY CANADIAN SCIENTIST

The international team of scientists led by Dr. Peter St George-Hyslop, who two months ago discovered the gene for early onset Alzheimer's disease, has found a second gene which is responsible for the disease. Dr. St George-Hyslop is a member of the Canadian Genetic Diseases Network and Director of the University of Toronto's Centre for Research in Neurodegenerative Diseases.

Canadian Genetic Diseases scientist, Dr. Johanna Rommens of University of Toronto and Toronto's Hospital for Sick Children, collaborated with Dr. St George-Hyslop in both discoveries and is a member of the research team.

The findings of the team will be published in the August 31 issue of the journal *Nature*. Recent announcements of similar results from other research groups were derived from the Network team's original discoveries.

The new gene, which is located on chromosome one, is associated with a less severe form of early onset familial Alzheimer's disease than the gene which Dr. St George-Hyslop discovered in June of this year. "The fact that both genes cause Alzheimer's disease and both produce similar proteins suggests that they have similar and possibly sequential functions in a complex biochemical pathway which eventually leads to Alzheimer's disease", said Dr. St George-Hyslop.

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"The genes are similar enough that knowledge developed from studying one gene will be relevant to the second gene", said Dr. Rommens. Dr. St George-Hyslop added "This is the first time we have found a causative agent and have immediately known how it relates to one of the other known causes. By combining separate pieces of knowledge, like these two pieces, we will eventually develop a clear picture of the complex biochemical processes involved in this disease."

Dr. St George-Hyslop commented that "Once we understand the biochemical processes of early onset Alzheimer's disease we will have a basis from which to design rational treatments".

He believes that since some people with the disease do not have mutations on the gene he has just discovered, or any of the three other known early onset Alzheimer's disease genes, there is at least one more early onset Alzheimer's disease gene yet to be discovered.

Dr. Michael Hayden, Scientific Director of the Canadian Genetic Diseases Network, said "We congratulate Dr. St George-Hyslop and his team on the rapid progress of their discoveries. The collaborations made possible through the Network were crucial in these important developments in Alzheimer's research."

The Canadian Genetic Diseases Network is a consortium of 38 of Canada's leading geneticists who are linked with twelve universities across Canada, 10 core facilities, and 8 industrial partners to form an "institute without walls".

Under a mandate from the federal government's Networks of Centres of Excellence Program, the Network is working closely with the University of Toronto, Hospital for Sick Children, and commercial partners to continue the leading-edge research efforts in Alzheimer's disease.

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