

INTERNATIONAL TYPE 1 DIABETES GENETICS CONSORTIUM

<http://www.t1dgc.org>

Description of project

- The goal of the Type 1 Diabetes Genetics Consortium (T1DGC) is to organize international efforts to identify genes that determine an individual's risk of type 1 diabetes.

Accomplishments to date

- Continued development and expansion of recruitment networks in Asia-Pacific, Europe, North America, and United Kingdom
- Finalized study documents (Protocol, data forms, Manual of Operations); access to current versions on T1DGC web site (<http://www.t1dgc.org>)
- Completed Network Center training sessions; initiated training and pilot studies in data collection sites
- Developed and finalized data flow, bar-coded label generation and distribution system, database architecture and tables and web-based data applications (e.g., data entry systems, specimen tracking system and HLA laboratory system)
- Developed data entry web site for entry of data and specimen collection
- Maintained and supported study committee structure
- Continued development and enhancement of the study web site for communication between Steering Committee members and to the membership of the Consortium and general public
- Established network laboratory groups and continued development of the Laboratory Manual of Operations (e.g., methods, quality control procedures, data transfer methods)
- Completed Network Laboratory training sessions (DNA Repository, HLA Laboratory and Autoantibody Laboratory in each Network)
- Developed and finalized a variety of real-time recruitment reports; access on web site
- Initiated Network Center and Laboratory site visits; will be completed
- Combined and analyzed the available genome screen data from over one thousand diabetic sibling pairs from US and Europe; the data will be made available to all investigators after the manuscript has been accepted for publication. Several chromosomal regions have demonstrated suggestive evidence of harboring diabetes susceptibility genes.
- Received and analyzed the whole genome scan data for 600 affected sib-pair (ASP) families already collected by various investigators from the Center for Inherited Disease Research; combined and analyzed these data with the previous tri-genome scan data for the manuscript.

Future directions

- Ascertain, study, and establish a renewable source of DNA on 2,500 families with at least two type 1 diabetic children, one non-diabetic child and two parents and 5,000 families

with one type 1 diabetic child, one non-diabetic child and two parents to map genes for type 1 diabetes through a series of geographically defined networks

- Create a database for the scientific community with clinical, genetic, and medical history information that would facilitate the search for type 1 diabetes susceptibility genes
- Provide a centralized DNA repository to allow targeted studies of genetic structure and function for type 1 diabetes.

Materials to be made available to researchers

- DNA samples (cell lines) from 2,500 new families with affected sib-pairs (approximately 12,500 total individuals); anticipated availability to researchers is 2005
- phenotype data from these individuals
- plasma and serum samples from these individuals
- DNA samples (cell lines) and phenotype and genotype data from existing cohorts
- data from genetic and laboratory analysis of stored DNA, plasma, and serum samples

The Steering Committee and Access Committee are in the process of finalizing the access policies for these materials. The T1DGC will be sending samples to a central repository, the timing of which is yet to be finalized. Please visit <http://www.t1dgc.org> for additional information.

Participants

Sponsors: National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Allergy and Infectious Diseases
National Human Genome Research Institute
Juvenile Diabetes Research Foundation
Diabetes UK

Participating Institutions

The T1DGC consists of a coordinating center and four clinical recruitment networks in Asia-Pacific, Europe, North America, and United Kingdom.

Coordinating Center

Wake Forest University Health Sciences

Steering Committee

<u>Name</u>	<u>Affiliation</u>
Stephen Rich (Chair)	Wake Forest University Health Sciences
Pat Concannon	Benaroya Research Institute
Henry Erlich	Roche Diagnostics
Cecile Julier	Pasteur Institute
Grant Morahan	Walter & Eliza Hall Institute
Jorn Nerup	Steno Diabetes Center

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