

Project to search for autism gene

A global research project is aiming to pin down the genetic causes of autism by studying 6,000 DNA samples from families affected by the brain disorder

The US National Alliance for Autism Research project involves 170 experts from the US, Canada, the UK and Europe.

Researchers will use a new technology called DNA microarray to scan the human genome to locate key genes.

UK experts said the research offered "great hope", but added environmental factors were also a likely cause.

Scientists have been attempting to identify which genes might be implicated in autism for some years
Lorna Wing, National Autism Society

Over the next six months, the researchers will analyse 6,000 DNA samples from families where two children have an autism spectrum disorder. Their parents' DNA will be analysed as part of the study.

The "gene chip" which they are using to carry out the DNA microarray testing contains thousands of strands of synthetic DNA, allowing genetic patterns which are common to the families to be identified.

Results from the study, believed to be the largest study into autism genes in history, are likely to be available in early 2005.

Autism is a complex brain disorder that often inhibits a person's ability to communicate, respond to surroundings or form relationships with others. There are no specific medical treatments for autism or a cure.

Around 535,000 people in the UK have an autism spectrum disorder.

'Understanding cause'

Prisca Chen Marvin of the NAAR, said: "We are very excited about combining scientific expertise with this cutting-edge technology to help uncover the genetic underpinnings of autism and determine what causes the disorder.

"Understanding the cause is paramount to our ability to biologically diagnose autism, develop medical treatments that help children and adults, effectively manage the disorder and find a cure."

The second phase of the NAAR research will involve more detailed analysis of any genetic

mutations which researchers identify.

Lorna Wing, honorary psychiatric consultant for the National Autism Society, said the project offered "great hope" for progress in the genetic investigation of autism.

"There is strong evidence to suggest that genetic factors are of major importance in the causation of autistic spectrum disorders.

"Scientists have been attempting to identify which genes might be implicated in autism for some years."

She added: "Autism is likely to have multiple genes responsible, rather than a single gene.

"The difficulty of establishing gene involvement is compounded by the interaction of genes and by their interaction with environmental factors.

"More research needs to be funded in order that all these factors can be explored in relation to one another."

It is hoped that the "gene chip" technology could also be used to analyse other conditions, such as heart disease and cancer.

Greg Yapp, senior director of DNA analysis at US firm Affymetrics, who is working on the study, said: "Many complex diseases have a genetic component and hopefully the technology will be able to be used to make progress on all of those."

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