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Hopkins researchers release genome data on autism

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Researchers at Johns Hopkins' McKusick-Nathans Institute of Genetic Medicine today are releasing newly generated genetic data to help speed autism research. The Hopkins data, coordinated with a similar data release from the Autism Consortium, aims to help uncover the underlying hereditary factors and speed the understanding of autism by encouraging scientific collaboration. These data provide the most detailed look to date at the genetic variation patterns in families with autism.

"Autism is a difficult enough genetic mystery for which we need all of the best minds and approaches to help unravel the role of genes in this neuropsychiatric illness," says Aravinda Chakravarti, Ph.D., director of the Center for Complex Disease Genomics at Hopkins.

Chakravarti and his team analyzed whole genomes from 1,250 autistic individuals, their siblings and parents; these samples were collected across the United States by many researchers under the aegis of the National Institute of Mental Health, part of the National Institutes of Health. Mark Daly, Ph.D., a senior associate member of the Broad Institute of Massachusetts Institute of Technology and Harvard, is part of the Autism Consortium which released data acquired collected similarly from 3,000 individuals who are either affected by autism spectrum disorders (ASD) or are family members of individuals with autism.

"We're releasing raw genotype data so that other qualified researchers can take a look at it even as we're still beginning our own analysis," says

Daly.

“It is really something of a landmark to have pre-publication data from our laboratories available to autism researchers. We are doing so in the spirit of the human genome project where such data releases were critical to progress long before final results were available. We are carefully looking at our collaborative findings as we continue to search for definitive information about which genes are important in causing autism spectrum disorders,” says Chakravarti, who has collaborated with Daly for many years. “We hope to identify the most likely candidates over the next few months.”

The number of individuals diagnosed with autism spectrum disorders, which impair thinking, feeling, language skills and the ability to relate to others, has significantly increased in recent years. Although there is some uncertainty about the role that better recognition and diagnosis of disorders, as well as biological and environmental factors, play a role in this rise in ASD incidence, there is growing evidence that genes contribute significantly to autism spectrum disorders. The release of the data from this screen is a significant step toward identifying those genes.

“Autism spectrum disorders are extremely complex, and only through collaboration with researchers with many specialized areas of expertise will we gain an understanding of what makes some children susceptible,” says Daly.

“Today’s release of genetic and phenotypic data on autism marks a significant achievement for the autism research community,” says Thomas Insel, Ph.D., director of the National Institute for Mental Health. “Progress in finding the causes of and cures for autism spectrum disorders rests in large part on improving the rapid access and sharing of data and resources.”

Source: Johns Hopkins Medical Institutions