Genetic map may help find disease causes

October 26 2005

Scientists announced in Salt Lake City the mapping of the most common genetic differences across the entire genome for 269 different humans.

The goal of the research, published in this week's journal Nature, is to understand genetic changes underlying such diseases as cancer and psychiatric illnesses.

Researchers believe part of the answer lies in tiny changes in the DNA sequence called single nucleotide polymorphisms.

The scientists, led by David Altshuler of the Massachusetts Institute of Technology, and Peter Donnelly of Oxford University, presented a map of more than 1 million of the most common SNPs grouped into haplotypes -- combinations of SNPs that have traveled together over evolutionary time.

The team checked SNPs from 269 people from four different populations: 90 people from Nigeria, 90 from the United States, 45 from China and 44 from Japan.

In a second paper appearing in Nature, Vivian Cheung of the University of Pennsylvania and colleagues used the data map to find associations between SNPs and the levels at which certain genes are expressed.

Cheung said her team's data should make it possible to understand the genetic causes of traits such as blood pressure and obesity.