

HapMap yields clues to human diseases

A catalog of human genetic variations published in October may give researchers a faster and cheaper way to search the human genome for variations that can cause disease.

In the past, researchers trying to identify a gene that causes a specific disease spent months testing patients and sorting through about 10 million variations, or single-nucleotide polymorphisms (SNPs). The new catalog, dubbed HapMap, maps the genome into families of genetic variation called haplotypes and helps researchers identify disease markers within them. The map could result in an estimated 10- to 20-fold reduction in cost.

Researchers based the DNA samples on 269 people from four geographic regions. Critics question how useful the HapMap will be in analyzing other populations. Several researchers have already used the catalog finding, for instance, a genetic variation that increases the risk of age-related macular degeneration more than sevenfold (*Science* 308, 385–389; 2005). The HapMap researchers are working on the second phase of the project, in which they will add 2.6 million additional SNPs.—EW

Risk of birth defects rises with men's age

The chance of having babies with birth defects increases with age: that maxim isn't true only for women. Researchers said in November that older men are more likely to father babies with Down syndrome or limb defects.

Compared with men aged 20–29, men older than 45 are more than three times more likely to have a child with Down syndrome. For men over 50, the risk increases nearly fourfold, Danish researchers found (*Hum. Reprod.* 20, 3173–3177; 2005).

Scientists collected data on more than 70,000 couples from the Danish Fertility Database and compared it against diagnoses of birth defects in children from a nationwide hospital registry. Unlike most studies on the effects of paternal age, all mothers in the study were younger than 30. "You'd have to come to Hollywood to find a larger sample of this type," says lead researcher Jorn Olsen.

Since the 1950s, scientists have known that the number of mutations in sperm increases as men age. There are now about 20 different disorders linked to paternal age, including schizophrenia and dwarfism.—EW

Immunologist admits to falsifying data

Several journals and institutions are assessing the validity of research conducted by a Massachusetts Institute of Technology (MIT) biologist who was fired in October for falsifying data. Luk Van Parijs, 35, is suspected of submitting fraudulent data in a research manuscript and grant applications and has admitted to fraud in one paper, according to the university.

Van Parijs has been on leave from MIT since August 2004, when his colleagues at the university raised concerns about his work. MIT officials declined to reveal which paper contains falsified data until the Office of Research Integrity in the US Department of Health and Human Services completes its federal investigation.

Prior to joining MIT in 2000, Van Parijs was a graduate student at Harvard University and then a postdoctoral fellow at the California Institute of Technology. He has co-authored 38 papers since his graduate work at Harvard and was considered a rising star in immunology.

Harvard, Caltech and the journal *Immunity* are also assessing his publications, and as news spreads, more journals are considering looking into the matter. Between 1995 and 2004, there were 129 findings of research misconduct, according to the Office of Research Integrity.—EW

Bush's bird flu plan promotes vaccines

Eight years after the first human deaths from the H5N1 strain of avian influenza, the US government announced its first substantial plan to thwart a flu pandemic. In November, President Bush proposed a \$7.1 billion investment in vaccine development and other preparations—10-fold more than spending on such research in the past two years combined. The World Health Organization and others proposed another \$1.5 billion worldwide over the next three years.

The US funds would be used to develop technologies for rapidly making an influenza vaccine, build stockpiles of antiviral drugs and experimental vaccines and support the efforts of local governments. In 2004 and 2005, US Congress allocated a total of \$689 million to the Department of Health and Human Services for pandemic vaccine development.

Meanwhile, the World Bank estimates \$1 billion to stop the spread of the flu in poultry and to prepare for a potential human pandemic. The World Health Organization says another \$500 million would be needed to buy antiviral drugs for developing countries that can't afford them and to fund research and development of vaccines for humans.—EW

South Korea's stem cell star accused of ethics breach

A high-profile scientific collaboration ended dramatically last month when the University of Pittsburgh's Gerald Schatten accused Woo-Suk Hwang, South Korea's celebrated stem cell researcher, of lying about ethical issues.

Schatten's statement, issued 12 November by his university, cited a report in *Nature* last May that suggested Hwang may have used eggs from junior laboratory members to clone a human blastocyst and derive stem cell lines from it (429, 3; 2004). Hwang has denied the reports, but in his statement Schatten said he now has reason to doubt Hwang's assertions.

Schatten was scheduled to be named chairman of Hwang's World Stem Cell Hub, a Seoul-based international network for sharing stem cell lines, launched in October. Following Schatten's statement, other stem cell researchers said they would not join the hub if the allegations are proven true. Many added that the dramatic episode and resulting confusion are a setback for a field that is already beset by controversy.

Schatten did not reveal further details about his information, but his colleagues and bioethicists say they hope he will come forward with the evidence. Schatten and Hwang had worked together for 20 months, during which time they created patient-specific embryonic stem cells and cloned a dog.—DC



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