



International
Cancer Genome
Consortium

Gene mutations that cause chronic lymphocytic leukemia identified

Toronto, June 5, 2011 – Four gene mutations that cause chronic lymphocytic leukemia in different subgroups of patients have been identified in the analysis of mutated genes of more than 300 patients. The mutated genes were discovered when researchers sequenced the whole genome of normal and tumour cells of patients with chronic lymphocytic leukemia. The announcement was made today by the International Cancer Genome Consortium (ICGC).

The research was carried out by a team of 60 scientists of the Spanish Chronic Lymphocytic Leukemia Genome Consortium (LLGC) led by Dr. Elías Campo of the Hospital Clinic, University of Barcelona and Dr. Carlos López-Otín of the University of Oviedo. Researchers from the Wellcome Trust Sanger Institute in the U.K., collaborated on the study, which was published today in the journal *Nature*. The LLGC is a member of the ICGC.

The International Cancer Genome Consortium is one of most ambitious biomedical research efforts since the Human Genome Project. It was launched to coordinate current and future large-scale projects to understand the genomic changes involved in 50 different types of cancer. ICGC member organizations and participating centres have agreed upon common standards for informed consent and ethical oversight to ensure that all samples will be coded and stored in ways that protect the identities of the participants in the study.

To maximize the public benefit from ICGC member research, data is made rapidly available to qualified investigators. The data are housed in the Data Coordination Centre located at the Ontario Institute for Cancer Research (OICR), which also provides the Secretariat. All Consortium participants agreed not to file any patent applications or make other intellectual property claims on primary data from ICGC projects.

“By making the data available to the world’s researchers, the Consortium members hope treatments that target the mutations driving different types of cancer will be developed more quickly,” said Dr. Tom Hudson, President and Scientific Director of OICR. “The discovery published today provides a diagnostic and therapeutic target for a disease that is not currently curable. We are moving rapidly into the era of personalized medicine, where treatment will be based on a combination of pathology and mutation profiles, resulting in better clinical responses and increased survival.”

Currently, the ICGC has received commitments from funding organizations in Asia, Australia, Europe and North America for 39 project teams in 13 jurisdictions to study more than 18,000 tumour genomes. Projects that are currently funded are examining tumours affecting the bladder, blood, bone, brain, breast, cervix, colon, head and neck, kidney, liver, lung, oral cavity, ovary, pancreas, prostate, rectum, skin, soft tissues, stomach and uterus. Over time, additional nations and organizations are anticipated to join the ICGC. The genomic analyses of tumours conducted by ICGC members in Australia and Canada (pancreatic cancer), Japan (liver cancer), Spain (blood cancer), the UK (breast, lung and skin cancer) and the USA (blood, brain, breast, colon, kidney, lung, ovarian, rectal, stomach

and uterine cancer) are now available through the Data Coordination Center housed on the ICGC website at www.icgc.org.

Worldwide, more than 7.5 million people died of cancer and more than 12 million new cases of cancer were diagnosed in 2007. Unless progress is made in understanding and controlling cancer, those numbers are expected to rise to 17.5 million deaths and 27 million new cases by 2050.

Once thought of as a single disease, cancer is now understood to be the result of genetic mutations in cells which disrupt normal functions leading to uncontrollable growth. Because mutations are often specific to a particular type or stage of cancer, systematically mapping the changes that occur in each cancer could provide the foundation for research to identify new therapies, diagnostics and preventive strategies.

For more information and updates about ICGC activities, please visit the website at: www.icgc.org.

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