Monday 11 July, 2016

INTERNATIONAL COLLABORATION TO CREATE NEW CANCER MODELS TO ACCELERATE RESEARCH

An international project to develop a large, globally accessible, bank of new cancer cell culture models for the research community launches today (Monday).

The National Cancer Institute (NCI), Cancer Research UK, the Wellcome Trust Sanger Institute and the foundation Hubrecht Organoid Technology are joining forces to develop the Human Cancer Models Initiative (HCMI) which will bring together expertise from around the world to make around 1,000 cancer cell models.

Using new techniques to grow cells, scientists can make models which will better resemble the tissue architecture and complexity of human tumours than the cell lines used today.

Dr Louis Staudt, director of NCI's Center for Cancer Genomics, said: "As part of NCI's Precision Medicine Initiative in Oncology, this new project is timed perfectly to take advantage of the latest cell culture and genomic sequencing techniques to create models that are representative of patient tumours and are annotated with genomic and clinical information. This effort is a first step towards learning how to use these tools to design individualised treatments."

Scientists will make the models using tissue from patients with different types of cancer, potentially including rare and children's cancers, which are often under-represented or not available at all in existing cell line collections.

Dr Ian Walker, Cancer Research UK's director of clinical research, said: "This exciting new project means that we can expand our resources for researchers around the world. We want scientists to have the best resources to be able to easily study all types of cancer. And these new cell lines could transform how we study cancer and could help to develop better treatments for patients."

The new models have the potential to reflect the biology of tumours more accurately and better represent the patient population.

The tumour and the derived models will be genetically sequenced. Researchers will have access to this information, as well as the anonymised clinical data about the patients and their tumour.

The HCMI collaborators aim to speed up development of new models and to make research more efficient by avoiding unnecessary duplication of scientific efforts.

Dr Mathew Garnett, group leader at the Wellcome Trust Sanger Institute, said: "New cancer model derivation technologies are allowing us to generate even more and improved cancer models for research. A concerted and coordinated effort to make new models will accelerate this process, while also allowing for rapid learning, protocol sharing, and standardised culturing methods."

Dr Hans Clevers of the foundation Hubrecht Organoid Technology, said: "We are delighted to take part in this global partnership to make new resources for researchers."

HCMI could transform research and will allow scientists to study many aspects of cellular biology and cancer, including how the disease progresses, drug resistance, and the development of precision medicine treatments.

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About the foundation Hubrecht Organoid Technology

The foundation Hubrecht Organoid Technology (HUB) is a not-for-profit organization founded by the Royal Netherlands Academy of Sciences and the University Medical Center Utrecht. The HUB exploits the pioneering work of Prof. Hans Clevers, who discovered methods to grow stem cell-derived human 'mini-organs' (organoids) from tissues of patients with various diseases. The organoids, that are part of the Living Biobank, are characterized by genome sequencing, expression profiling and sensitivity to known and experimental drugs to establish a database linking genetic and transcriptional information to drug responsiveness. The HUB offers licenses to its patented Organoid Technology for drug-screening and access to organoids in the Living Biobank for preclinical drug discovery and validation. In addition, the HUB provides drug screening services to third parties. More info at www.hub4organoids.eu

About the National Cancer Institute

The National Cancer Institute, part of the National Institutes of Health (NIH), leads the U.S. National Cancer Program and NIH's efforts to dramatically reduce the prevalence of cancer and improve the lives of cancer patients and their families, through research into prevention and cancer biology, the development of new interventions, and the training and mentoring of new researchers. For more information about cancer, please visit the NCI website at http://www.cancer.gov or call NCI's Cancer Information Service at 1-800-4-CANCER.

About Cancer Research UK

- Cancer Research UK is the world's leading cancer charity dedicated to saving lives through research.
- Cancer Research UK's pioneering work into the prevention, diagnosis and treatment of cancer has helped save millions of lives.
- Cancer Research UK receives no government funding for its life-saving research. Every step it makes towards beating cancer relies on every pound donated.
- Cancer Research UK has been at the heart of the progress that has already seen survival in the UK double in the last forty years.
- Today, 2 in 4 people survive their cancer for at least 10 years. Cancer Research UK's ambition is to accelerate progress so that 3 in 4 people will survive their cancer for at least 10 years within the next 20 years.

- Cancer Research UK supports research into all aspects of cancer through the work of over 4,000 scientists, doctors and nurses.
- Together with its partners and supporters, Cancer Research UK's vision is to bring forward the day when all cancers are cured.

For further information about Cancer Research UK's work or to find out how to support the charity, please call 0300 123 1022 or visit www.cancerresearchuk.org. Follow us on Twitter and Facebook.

About the Wellcome Trust Sanger Institute

The Wellcome Trust Sanger Institute is one of the world's leading genome centres. Through its ability to conduct research at scale, it is able to engage in bold and long-term exploratory projects that are designed to influence and empower medical science globally. Institute research findings, generated through its own research programmes and through its leading role in international consortia, are being used to develop new diagnostics and treatments for human disease. www.sanger.ac.uk