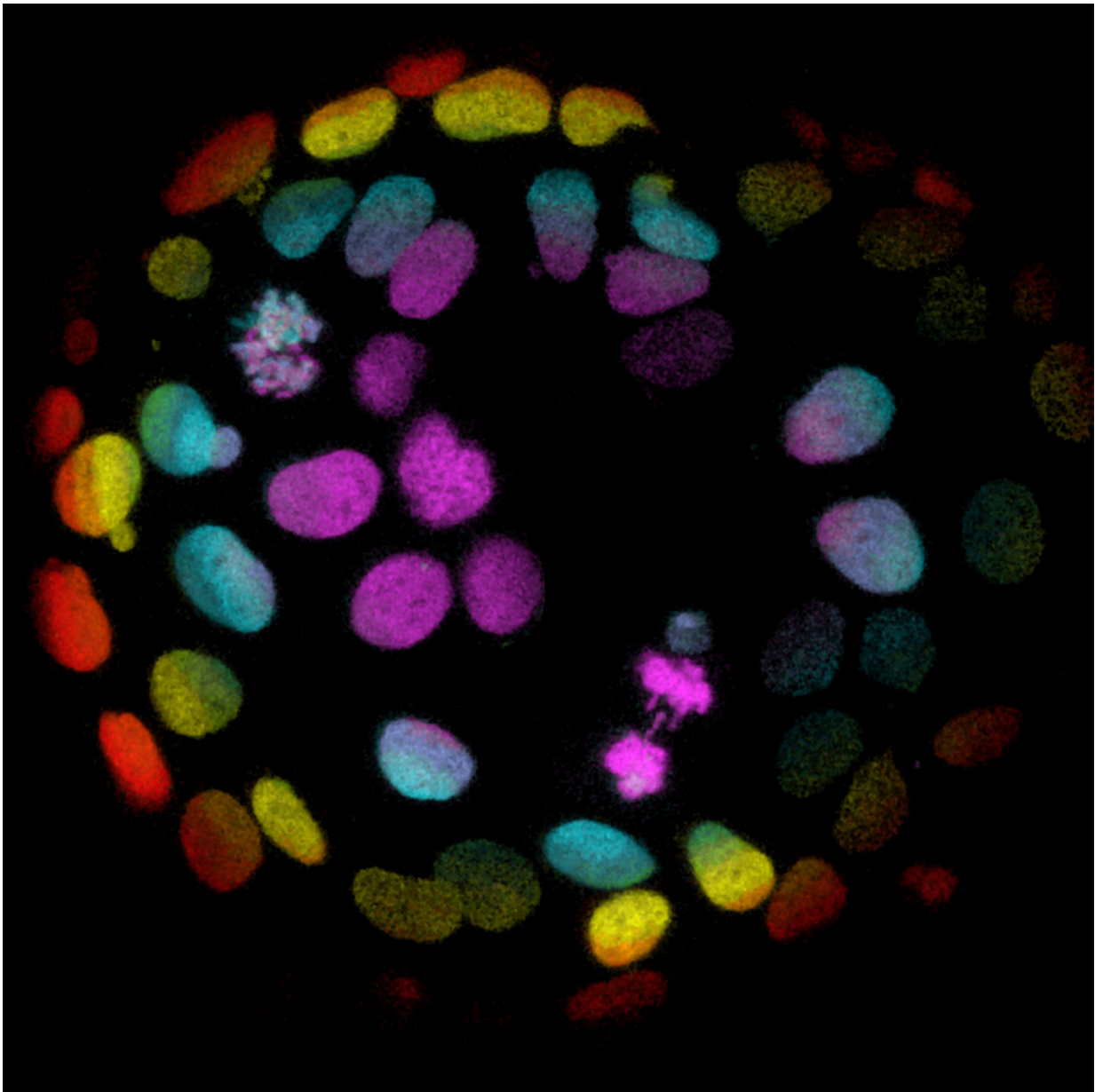


International collaboration to create new cancer models to accelerate research

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Microscopic image of colorectal cells grown into organoids Credit: foundation Hubrecht Organoid Technology

An international project to develop a large, globally accessible bank of new cancer cell culture models for the research community launched today. The National Cancer Institute (NCI), part of the National Institutes of Health; Cancer Research UK, London, England; the Wellcome Trust Sanger Institute, Cambridge, England; and the foundation Hubrecht Organoid Technology, Utrecht, Netherlands, are joining forces to develop the Human Cancer Models Initiative (HCMI), which will bring together expertise from around the world to make about 1,000 cancer cell models.

Using new techniques to grow [cells](#), scientists can make models that will better resemble the tissue architecture and complexity of human tumors than the cell lines used today.

Louis Staudt, M.D., Ph.D., 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 tumors and are annotated with genomic and clinical information. This effort is a first step toward learning how to use these tools to design individualized treatments."

Genetic sequencing data from the tumors and derived models will be available to researchers, along with clinical data about the patients and their tumors. All information related to the models will be shared in a way that protects patient privacy.

Ian Walker, Ph.D., Cancer Research UK's director of clinical research

and strategic partnerships, 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."

Scientists will make the models using tissue from patients with different types of cancer, potentially including rare and children's cancers, which are often underrepresented or not available at all in existing cell line collections. The new models will have the potential to reflect the biology of tumors more accurately and better represent the overall cancer patient population.

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

Mathew Garnett, Ph.D., 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 standardized culturing methods."

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.

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

Provided by National Cancer Institute

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