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AstraZeneca, Cancer Research UK launch Functional Genomics Centre

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Centre of excellence will use CRISPR technology, big data and clinical insights to discover new targets and disease pathways in oncology.

AstraZeneca has announced a new collaboration with Cancer Research UK to launch a centre of excellence in genetic screening, cancer modelling and big data processing aimed at accelerating the discovery of new cancer medicines.

The Functional Genomics Centre will further develop CRISPR technology to better understand the biology of cancer, creating biological models that may be more reflective of human disease, and advancing computational approaches to better analyse big datasets. These approaches are designed to inform new druggable targets in oncology by using clinical insights to better understand tumour disease and resistance mechanisms.

The Functional Genomics Centre will be located at the Milner Therapeutics Institute at the University of Cambridge. AstraZeneca and Cancer Research UK will have independent use of the Centre's facilities, and their scientists will work alongside each other to facilitate collaboration, technical innovation and scientific progress.

At the Centre, scientists will have access to the next generation of CRISPR libraries for silencing or activating every gene in the genome, accessed through an extension of the existing collaboration between AstraZeneca and the Wellcome Sanger Institute. This collaboration includes access to the Wellcome Sanger Institute's most recent versions of human and mouse genome-wide CRISPR/Cas9 knockout libraries, as well as Cas9 and dual gRNA expression vectors. This extends the application of CRISPR technology with vectors, providing enhanced sensitivity and specificity in gene editing, leading to easier targeting and identification.

A separate collaboration between AstraZeneca and the California-based Innovative Genomics Institute (IGI) will aim to use CRISPR to uncover genes and disease pathway mechanisms involved in DNA Damage Response (DDR), a key process involved in many cancers and one of AstraZeneca's four key platforms in oncology. Research will focus on identifying potential therapeutic strategies for DDR inhibitors, including combinations, in oncology.