Center for Cancer Genomics (CCG) www.cancer.gov/ccg

The Center for Cancer Genomics (CCG) was established by the National Cancer Institute to develop and apply genomic science to better diagnose and treat cancer patients. Owing to advances in sequencing technology, genomics has revolutionized our understanding of cancer biology and created a new classification framework based on the molecular alterations of tumors. CCG programs and collaborations aim to uncovering the molecular changes that initiate cancer, promote growth and metastasis, and lead to drug resistance and relapse. To identify the clinical impact of genomic changes, CCG's initiatives integrate molecular data with highly-annotated clinical data. The resulting high-quality data sets, along with data from independent submitters, are made widely available across the research community through NCI's Genomic Data Commons, a unified knowledge base for cancer genomics research.

Programs & Collaborations www.cancer.gov/ccg/research

Structural Genomics Research – Characterizing the molecular alterations that occur in cancer

- Adjuvant Lung Cancer Enrichment Marker Identification & Sequencing Trial (ALCHEMIST)
- Cancer Driver Discovery Program (CDDP)
- Cancer Genome Characterization Initiative (CGCI)
- Cancer of Unknown Primary (CUP) Consortium
- Clinical Trial Sequencing Project (CTSP)

- Early Onset Malignancies Initiative (EOMI)
- Exceptional Responders (ER) Initiative
- Refractory Cancers
- Therapeutically Applicable Research to Generate Effective Treatments (TARGET)
- The Cancer Genome Atlas (TCGA)

Functional Genomics Research – Revealing the biological mechanisms underlying cancer

- Cancer Target Discovery & Development (CTD^2) - Working to understand how tumor heterogeneity leads to drug resistance in order to develop optimal combinations of chemotherapy or small molecules in combination with immunotherapy. ocg.cancer.gov/programs/ctd2
- Human Cancer Models Initiative (HCMI) - Generating next-generation, patient-derived culture models annotated with genomic and clinical data for the research community. ocg.cancer.gov/programs/hcmi

Computational Genomics Research – Developing tools & resources for analyzing large-scale data sets

- Genomic Data Commons (GDC) - Breaking down barriers to data sharing by bringing cancer genomic datasets into one location, harmonizing the data using best-in-class bioinformatics pipelines, and developing web-based, advanced computational tools. gdc.cancer.gov
- NCI Cloud Resources - Making large-scale data sets available in a secure, compliant, and scalable cloud environment. In partnership with NCI's Center for Biomedical Informatics & Information Technology. datascience.cancer.gov/data-commons/cloud-resources

Member Offices www.cancer.gov/ccg/about

Office of Cancer Genomics (OCG) ocg.cancer.gov

The Cancer Genome Atlas (TCGA)