

Office of Cancer Genomics Program Flowchart

This flowchart depicts how the four OCG-supported programs function and interact with one another to move toward the development of novel cancer therapeutics.

If you have any questions about any of the OCG-supported programs, contact us by email at ocg@mail.nih.gov or call (240) 781-3280.

Cancer Target Discovery and Development

Cancer Target Discovery and Development (CTD²) Network Centers generate various functional (i.e. shRNA, CRISPR, and small molecule screens) and bioinformatic tools to translate molecular information generated from large-scale genomic initiatives like Cancer Genome Characterization Initiative (CGCI), Therapeutically Applicable Research to Generate Effective Treatments (TARGET). CTD² Network Centers also perform functional validation of targets from various cancers identified by genomic functional and clinical data made available to the community. Resources (data, computational tools, and reagents) developed by CTD² Network Centers are made available to the research community.

Therapeutically Applicable Research to Generate Effective Treatments

Therapeutically Applicable Research to Generate Effective Treatments (TARGET) collects matched primary, relapsed or metastatic (if available) pediatric cancer and normal tissue from clinical and biological studies. Genome-wide molecular characterization and sequencing is performed on the tissues. The resulting genomic, functional, and clinical data is made available to the research community and feeds into CTD² to allow for the identification of alterations important for cancer etiology and treatment. In addition, genomic data from TARGET contributes to the potential development of novel targeted therapies through efforts not directly supported by OCG.

Cancer Genome Characterization Initiative

The Cancer Genome Characterization Initiative (CGCI) collects matched adult and pediatric cancer and normal tissue. Genome-wide molecular characterization by sequencing is performed on the tissues. The resulting genomic, functional, and clinical data is made available to the research community and feeds into CTD² to allow for the identification of alterations important for cancer etiology and treatment. In addition, genomic data from CGCI contributes to the potential development of novel targeted therapies through efforts not directly supported by OCG.

Human Cancer Models Initiative

The Human Cancer Models Initiative (HCMI) is an international consortium that is generating patient derived cancer models using next generation cell culture technologies. Molecular characterization of the generated models is performed along with sequencing of normal tissue and primary tumor. All molecular and sequencing data is made available to the research community and feeds into CTD². The resulting models are made available to the research community through a distributor.