NCI Resources for Researchers

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Division of Cancer Biology (DCB)
NCI
NCI Experimental Resources for Researchers

Databases

Animal Models

Clinical Resources
NCI-Supported Databases

- SEER
- TCGA
The Surveillance, Epidemiology, and End Results Program (SEER)  
(https://seer.cancer.gov/)

• Provides information on cancer statistics
• Cancer data from registries covering 35% of the U.S. population
• SEER is managed by the Surveillance Research Program (SRP) in the Division of Cancer Control and Population Science (DCCPS), NCI
• Data includes cancer incidence and population data associated by age, sex, race, year of diagnosis, and geographic areas
• Releases new research data every spring based on the previous November’s submission of data
The Cancer Genome Atlas (TCGA)
(https://cancergenome.nih.gov)

- Collaboration between NCI and the National Human Genome Research Institute (NHGRI)
- Sequencing information from tumor and matched normal tissue from over 11,000 patients
- TCGA dataset is made up of more than two petabytes of genomic data
- Generated a tremendous amount of information on about 33 different types of cancer
Mouse cancer models
- Request frozen embryos or sperm
- Researchers are encouraged to submit their cancer models to the NCI mouse repository for archiving and distribution

miRNA Embryonic Stem Cell Collection
- ES cells overexpressing microRNAs
- MicroRNAs are GFP labeled
- MicroRNA expression is inducible

Ordering miR ES Cells/requirements
- Must have NIH funding
- Distribution is prioritized
- Pay a shipping fee

Contact: Dr. Nancy Boudreau
Cell Lines

NCI-60 Human Tumor Cell line
(https://dtp.cancer.gov/discovery_development/nci-60/)

• NCI Developmental Therapeutics Program (DCT), NCI

• Representative cancers: leukemia, melanoma, lung, colon, brain, ovary, breast, prostate, and kidney cancers

• Used to identify and characterize novel compounds with growth inhibition or killing of tumor cell lines
Annotated Biospecimens

National Clinical Trials Network Navigator (NCTN Navigator) ([https://navigator.ctsu.org/navigator/login](https://navigator.ctsu.org/navigator/login))

- For cancer researchers interested in conducting studies using specimens and clinical data collected from cancer treatment trials

- Includes information about specimens, such as tumor and blood samples, donated by patients in NCI-sponsored clinical trials

Navigator Process Flow

- Explore specimens in Navigator using a Guest Account
- Explore related trial publications & develop a question
- Create a CTEP-IAM account & submit a LOI
- The LOI will be reviewed for feasibility
- Submit a proposal, if the LOI was feasible
- The proposal will be scientifically reviewed
- Obtain regulatory approvals & funding, receive specimens, complete project.
NCI Patient-Derived Models Repository (PDMR)

(https://pdmr.cancer.gov/)

Generated from primary and metastatic tumor tissues and blood specimens supplied by NCI-supported clinical trials and NCI-designated Cancer Centers

- Patient-derived xenografts
- Patient-derived tumor cell cultures
- Cancer associated fibroblasts
- Patient-derived organoids

Will include a limited amount of patient data:

- Previous clinical therapies
- Smoking history
- Race/ethnicity
- Representative sequence for a sub-set of PDXs for a targeted gene panel, whole exome, and RNASeq
- Will also accept previously derived PDX models developed at external sites
How are Experimental Resources Developed by NCI?

- Feedback from researchers
- Workshop or Think Tank asking leaders in cancer research to let us know how we can help them
- Approvals from NCI leadership
- PDMR process began in 2012, resource active 4/2018
Additional NCI Resources....

- Physical Sciences in Oncology Bioresource (https://physics.cancer.gov/bioresources/)
- Ras Initiative (https://www.cancer.gov/research/key-initiatives/ras/outreach/reference-reagents)
- Cooperative Human Tissue Network (https://www.chtn.org/)