The Cancer Genome Atlas

How Will It Work?



Eligible cancer patients will be asked to donate a small portion of tumor tissue that has been removed as part of their cancer treatment. The tissue will be collected for a research study and will not affect the patient's medical care in any way.

Data Management, Bioinformatics, and Computational Analysis



The information that is generated by The Cancer Genome Atlas network will be centrally managed and entered into public databases as it becomes available, allowing scientists to access the information during the course of the project.

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Scientists will analyze the complete set of genetic and clinical data produced by The Cancer Genome Atlas network to develop a comprehensive Web-based resource. This resource will describe the genetic "fingerprints" of specific cancer types and will be known as The Cancer Genome Atlas.

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Scientists plan to use several methods to analyze the genetic material obtained from the patient's tissue. The genetic information will eventually be made publicly available so that scientists can use it to conduct research. Identifying information, such as the patient's name, will not be put into the public database.

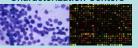
Genome Sequencing Centers



Building on the technologies that were used to complete the Human Genome Project, high-throughput genome sequencing centers will identify the changes in DNA sequence associated with specific types of cancer.

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Technology Development Cancer Genome
Characterization Centers



Several genome characterization technologies will be used to analyze the genetic changes involved in cancer onset and progression. The genetic changes that scientists believe are the most significant will be further studied by the genome sequencing centers.



Researchers will evaluate the information contained in The Cancer Genome Atlas to determine how it can be used to speed up advances in cancer diagnosis, treatment, and prevention.

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Because cancer is not a single disease, but a collection of diseases that arise from different combinations of genetic changes, scientists must analyze the genetic material from different tumors and many patients to uncover the tell-tale genetic signatures of different cancer types.

Human Cancer Biospecimen Core Resource



Tissue samples will be carefully catalogued, processed, checked for quality, and stored, complete with important medical information about the patient. Before the genetic material is sent for analysis, samples will be coded to remove any descriptors that might connect a sample with the patient's private information.



The goal of The Cancer Genome Atlas is to give physicians new ways to better care for their patients and significantly reduce the suffering and death due to cancer.

NATIONAL CANCER INSTITUTE







Patient Community
TCGA Network
Research and Medical Community