

Glossary

Analytes

A substance that has been measured and/or analyzed in some fashion.

Apoptosis

Cell-induced suicide; cells use this mechanism under a number of different conditions, including when errors have been made in the DNA that have not been corrected.

Benign tumor

A tumor that has not gained the ability to invade into other host tissues and/or organs; usually non-life threatening.

Biospecimen

Biospecimens are biologically-derived materials — such as tissue, blood, urine — used for diagnosis and analysis of medical conditions.

Biorepository

A “Library” where biospecimens are stored, also known as biobank.

Carcinogen

Any substance that causes cancer.

Cell

The individual unit that makes up the tissues of the body. All living things are made up of one or more cells.

Chemotherapy

A form of cancer therapy that uses drugs to kill cancer cells.

Chromosome

Part of a cell that contains genetic information. Except for sperm and eggs, all human cells contain 46 chromosomes.

Cryosurgery

A form of cancer therapy that uses extreme cold to kill and remove cancer cells.

DNA

Deoxyribonucleic acid. The molecules inside cells that carry genetic information and pass it from one generation to the next. Also called deoxyribonucleic acid.

Gene

The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein.

Gene Expression

The process by which proteins are made from the instructions encoded in DNA.

Genome

All of the DNA contained in an organism, which includes both the chromosomes within the nucleus and the DNA in mitochondria

Genomic characterization

A profile of the entire genome or a segment of DNA with regard to changes in the genome and/or DNA. Characterization can include point mutation analysis, gene expression profiling and determination of chromosome gains and/or losses.

Genotype

The genetic identity of a specific DNA locus, a particular trait, a set of traits or an entire organism that does not necessarily show as outward characteristics.

Germline mutations

Mistakes in DNA that are inherited from parents to the child.

Health Insurance Portability and Accountability Act (HIPAA) of 1996

Act instituted to “establish national standards for electronic health care...” and to ensure “the security and privacy of health data”. For more information on HIPAA, see:

<http://www.cms.hhs.gov/HIPAAGenInfo/>

Laser therapy

A form of cancer therapy that utilizes a high-powered laser beam to kill cancer cells.

Malignant

Cancerous. Malignant tumors can invade and destroy nearby tissue and spread to other parts of the body.

Metastasis

The spread of cancer from one part of the body to another. A tumor formed by cells that have spread is called a “metastatic tumor” or a “metastasis.” The metastatic tumor contains cells that are like those in the original (primary) tumor.

Mutations

Any change in the DNA of a cell. Mutations may be caused by mistakes during cell division, or they may be caused by exposure to DNA-damaging agents in the environment. Mutations can be harmful, beneficial, or have no effect. If they occur in cells that make eggs or sperm, they can be inherited; if mutations occur in other types of cells, they are not inherited. Certain mutations may lead to cancer or other diseases.

Organ

A part of the body that performs a specific function. For example, the heart is an organ.

Polymorphism

A common variation or mutation in DNA.

Radiation therapy

The use of high-energy radiation from x-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy).

DNA Sequencing

Determining the exact order of the base pairs in a segment of DNA

Somatic mutations

An alteration in DNA that occurs after conception. Somatic mutations can occur in any of the cells of the body except the germ cells (sperm and egg) and therefore are not passed on to children. These alterations can (but do not always) cause cancer or other diseases.

Targeted therapy

A type of treatment that uses drugs or other substances, such to identify and attack specific cancer cells without harming normal cells.

Tissue

A group or layer of cells that work together to perform a specific function.

Transcription

In biology, the process by which a cell makes an RNA copy of a sequence of DNA that is a gene.

Transcriptome

A transcriptome is a collection of all the gene transcripts present in a cell.

Tumor

An abnormal mass of tissue that results when cells divide more than they should or do not die when they should. Tumors may be benign (not cancerous), or malignant (cancerous).