Editorial
Volume 14:10, 2022

Cancer Science &Therapy

ISSN: 1948-5956 Open Access

Cancer Biomarkers and its Uses

Albert Rikz*

Department of Chemotherapy, Research Institute in Healthcare Science, Florida, USA

Editorial

A cancer biomarker is a component or mechanism that can be used to detect the presence of cancer in the body. A biomarker is a substance produced by a tumour or a specific body reaction to the existence of cancer. For cancer diagnosis, prognosis, and epidemiology, genetic, epigenetic, proteomic, glycomic, and imaging biomarkers can be utilized. Such indicators should ideally be tested in non-invasively collected biofluids such as blood or serum.

The term "biomarker" is defined differently by different organisations and publications. Biomarkers are proteins that may be identified or measured in the blood or urine in various fields of medicine. But, the term is often used to any quantifiable or easily measurable molecular, biochemical, physiological, or anatomical characteristic.

While there are significant problems in transferring biomarker research into clinical practise, a number of gene and protein based biomarkers have already been used in patient care, including AFP (liver cancer), BCR-ABL (chronic myeloid leukaemia), BRCA1/BRCA2 (breast/ovarian cancer), BRAF V600E (melanoma/colorectal cancer), CA-125 (ovarian cancer), CA19.9 (pancreatic cancer), CEA (Because they can only derive from an existing tumour, mutant proteins discovered by Selective Reaction Monitoring (SRM) have been reported to be the most specific biomarkers for malignancies. Around 40% of malignancies can be treated if caught early enough with tests.

A biological molecule found in blood, other body fluids, or tissues that is a symptom of a normal or aberrant process, or of a condition or disease, according to. A biomarker can be used to determine how well the body responds to an illness or condition's therapy. Also known as a signature molecule or a molecular marker.

Biomarkers are utilised in cancer research and medicine in three ways:

- To aid in the diagnosis of diseases, such as malignancies in their early stages (diagnostic).
- To predict the severity of an illness, such as evaluating a patient's prognosis in the absence of treatment (prognostic).
- To forecast a patient's response to treatment (predictive).

Biomarker uses in cancer research

Biomarkers are frequently employed throughout the cancer medication discovery process, in addition to their usage in cancer therapy. For example, researchers discovered in the 1960's that the majority of individuals with chronic myelogenous leukaemia had a genetic mutation on chromosomes 9 and 22 known as the Philadelphia chromosome. When these two chromosomes come together, they form BCR-ABL, a cancer causing gene. In such patients, this gene serves as the primary starting point for all of the leukemia's physiological symptoms. For many years, the BCR-ABL was merely utilised as a biomarker to classify a certain leukaemia subtype. Imatinib, a potent medicine that efficiently blocked this protein and dramatically reduced the generation of cells with the Philadelphia chromosome, was later developed by pharma developers.

Surrogate endpoints are another interesting area where biomarkers can be used. Biomarkers are used to simulate the impact of a medicine on cancer progression and survival in this application. In an ideal world, the adoption of verified biomarkers would eliminate the need for tumour biopsies and long clinical trials to evaluate whether a new medicine was effective. The current gold standard for establishing a drug's efficacy is to see if it slows the progression of cancer in humans and, eventually, whether it prolongs survival. Successful biomarker surrogates, on the other hand, may save a lot of time, effort, and money if unsuccessful medications could be weeded out of the development pipeline before entering clinical trials.

How to cite this article: Rikz, Albert. "Cancer Biomarkers and its Uses." *J Cancer Sci Ther* 14 (2022): 554.

***Address for Correspondence:** Albert Rikz, Department of Chemotherapy, Research Institute in Healthcare Science, Florida, USA, E-mail: arikz@gmail.com*

Received: 23 June, 2022, Manuscript No. JCST-22-67468; **Editor assigned:** 27 June, 2022, PreQC No. JCST-22-67468 (PQ); **Reviewed:** 12 July, 2022, QC No. JCST-22-67468; **Revised:** 23 August, 2022, Manuscript No. JCST-22-67468 (R); **Published:** 31 August, 2022, DOI: 10.37421/1948-5956.2022.14.554

(MRPFT)