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A Brief Note on Cancer Biomarkers

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DESCRIPTION

A cancer biomarker is a chemical or method in the body that indicates the presence of melanoma. A biomarker is a molecule secreted by a tumour cells or a particular body reaction to the existence of cancer. Cancer diagnosis, prognosis, and epidemiological studies can all benefit from biological, epigenetic, proteomic, glycomic, and image analysis biomarkers. Such genetic markers should preferably be tested in non-invasively gathered biological fluids including such blood or serum. While there are various challenges in translating biomarker studies into the clinical space, a number of gene and protein centered biomarkers are already used in patient care, including AFP (liver cancer), BCR-ABL (chronic myeloid leukemia), BRCA1 / BRCA2 (breast/ovarian cancer), BRAF V600E (melanoma/colorectal cancer), CA-125 (ovarian cancer), CA19.9 (pancreatic cancer), CEA Since they can only come from an extant tumour, mutated proteins discovered by chosen reaction monitoring (SRM) have indeed been reported to become the most particular biomarkers for types of cancer. Approximately 40% of cancers can be cured if they are diagnosed early through medical tests. The term "biomarker" is defined differently by different organizations and publications. Biomarkers are proteins that can be identified or measured in the bloodstream in many areas of medicine. However, the term is widely used to refer to any quantifiable or measurable molecular, biochemical, physiological, or anatomical property. According to the National Cancer Institute (NCI), a biomarker is "a type of molecule found in the blood, other body fluids, or tissues which is a sign of a normal or anomalous procedure, or of a condition or disease." A biomarker can be used to assess how much the body responds to an illness or condition therapeutic interventions. Also known as a diagnostic biomarker and a signature molecule. Biomarkers have been used in three different ways in cancer research and medicine: To assist in the diagnosis of conditions, such as trying to identify early phase cancers (diagnostic), To predict how aggressive a condition will be, as in determining a patient's ability to perform significantly in the absence of treatment (prognostic), To forecast how a patient will require treatment (predictive). The main use and role of biomarkers are; Cancer biomarkers, particularly those associated with genetic mutations or epigenetic alterations, frequently provide a quantitative way of determining once people are predisposed to certain forms of cancer. Notable examples of potentially predictive tumor markers are including mutations in the genes KRAS, p53, EGFR, and erbB2 for colorectal, esophageal, liver, and stomach cancer; mutations in the genes BRCA1 and BRCA2 for breast and ovarian cancer; abnormal methylation of tumour suppressor genes p16, CDKN2B, and p14ARF for brain cancer; hyper methylation of MYOD1, CDH1, and CDH13 for cervical cancer; and p16, p14, and RB1 hyper methylation for oral cancer. Cancer biomarkers can also aid in the establishment of a particular condition. This is true when it comes to determining whether tumours are primary or metastases in nature. To make this distinction, researchers compared the chromosome number alterations found on cells from the primary tumour site to those discovered on cells from the supplementary tumour site. If the alterations match, the secondary tumour is considered metastatic; if the modifications differ, the secondary tumour is considered a distinct primary tumour. People with tumours, for example, have elevated circulating levels tumour DNA (ctDNA) due to tumour cells which have gone through apoptosis.

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CONFLICT OF INTEREST

We have no conflict of interests to disclose and the manuscript has been read and approved by all named authors.

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