

An Overall Study of the Molecular Biomarkers

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Editorial

The world of biological science has found out different substances having different properties to be used for purpose of diagnostic, treatment, prognostic, and exposure. These elements are found to exist in our cerebrospinal fluid, serum, biopsy, bronchoalveolar lavage, plasma, and nucleic acids. Hence, it can be said that the range of molecular biomarkers ranges from nucleic acid to a complete protein. The search for novel biomarkers is continuing daily through modes of several omic technologies with better efforts from scientist all around the globe as these biomarkers provides tremendous support for diagnostic and consequently treatment purpose. The whole domain of biomarker is subdivided into four basic groups which include, chemical, DNA, protein, and karyotypic. Data obtained from Reports suggest that a total number of biomarkers present are subdivided into 1089 chemical biomarkers, 142 protein biomarkers, 26374 genetic biomarkers, and 154 karyotypic biomarkers. It has also been that cancer cells themselves can produce biomarkers and in some cases, other cells affected somewhat even indirectly by cancer can serve as a molecular biomarker.

Urine is one of the abundantly available non-invasive biological fluids. It is one of the most important sources for understanding the proper working of the biomarker. Any deviation from the normal condition of the urine signifies some change in the metabolic or physiological state of the body. A significant change in texture, odor, and foam formation of urine has been observed during different physiological misbalance and metabolic malfunction. In patients suffering from jaundice, a significant change in the texture of urine is observed thus it can be said that in such cases urine acts as a biomarker for the detection of hepatitis.

Apart from all these biomarkers, the main focus of researchers of the present era lies in the molecular biomarkers composed of nucleic acids. Scientists have already explored many regions of these biomarkers and have been successful in creating a phylogenetic tree portraying our ancestors. Apart from that DNA fingerprinting working on the principle of genetic molecular biomarker has solved many mysteries. Thus it can be concluded that molecular biomarkers will soon break the barriers of hidden mysteries and will enlighten the world of science.

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