

# Editorial on Uses of Biomarkers in Medicine

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## Editorial

Biomarkers of all types have been used by generations of epidemiologists, physicians, and scientists to study human disease. The application of biomarkers in the diagnosis and management of cardiovascular disease, infections, immunological and genetic disorders, and cancer are well known. The term biomarker, or biological marker, refers to a broad range of measures which capture what is happening in a cell or organism at a given moment. Biomarkers are objective medical signs (as opposed to symptoms reported by the patient) used to measure the presence or progress of disease, or the effects of treatment.

A biological molecule found in blood, other body fluids, or tissues that is a sign of a normal or abnormal process, or of a condition or disease. A biomarker may be used to see how well the body responds to a treatment for a disease or condition. It is also called molecular marker and signature molecule. Biomarker is short for biological marker, and is used as an indication that a biological process in the body has happened or is ongoing. While some biomarkers are used to show that the body has been exposed to a chemical, toxin or other environmental impact — most associate biomarkers with medicine. Biomarkers are integral to drug development; they're really critical, because we need to measure the effects of investigational drugs on people during the clinical trials. And the way we do that is to look at their effect on biomarkers.

Biomarkers can help doctors and scientists diagnose diseases and health conditions, find health risks in a person, monitor responses to treatment, and see how a person's disease or health condition changes over time. For

example, an increased level of cholesterol in the blood is a biomarker for heart-attack risk. Biomarker is short for biological marker, and is used as an indication that a biological process in the body has happened or is ongoing. While some biomarkers are used to show that the body has been exposed to a chemical, toxin or other environmental impact — most associate biomarkers with medicine.

The importance of biomarkers continues to grow in all areas of clinical practice and, whether to predict, diagnose, or monitor disease, biomarkers are useful in every step of patient care. While disease symptoms are subjective, biomarkers provide an objective, measurable way to characterize disease. According to Biophysical Corporation, the 250 biochemical markers measured by its assay provide information about a broad range of the body's organic systems and their state of function. Biomarkers of all types have been used by generations of epidemiologists, physicians, and scientists to study human disease.

The application of biomarkers in the diagnosis and management of cardiovascular disease, infections, immunological and genetic disorders, and cancer are well known. Biomarkers can be characteristic biological properties or molecules that can be detected and measured in parts of the body like the blood or tissue. They may indicate either normal or diseased processes in the body. Biomarkers can be specific cells, molecules, or genes, gene products, enzymes, or hormones. However, certain universal characteristics are important for any biomarker they should be non-invasive, easily measured, inexpensive, and produce rapid results they should be from readily available sources, such as blood or urine they should have a high sensitivity, allowing early detection

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