

Circulating biomarkers - research and clinical use

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A biomarker is any predefined characteristic that measures as an indicator of normal biological processes, pathological processes, or responses to exposure or therapeutic intervention. We can divide them into diagnostic, prognostic and predictive according to the tasks they have to perform. Their applicability depends on the process of transition of biomarkers from primary research to proper clinical evaluation.

The aim is to find an ideal marker, it would only be specific to the disease, its concentration correlates with the clinical stage and its sensitivity is sufficient for the first stages of the disease to be able to treat all patients and at the same time could be used as a screening.

At present, not only individual candidates are biomarkers or combinations thereof, but completely new classes are also emerging, eg phosphorylation states derived from proteins, DNA, RNA. Relatively new methods include liquid biopsy, which allows tumor-related biomarkers to be captured in a fluid sample. Its biggest advantage is its minimal invasivity and the possibility of frequent measurements, because it is not related to obtaining a tissue sample - biopsy or surgery.