

Special Issue

Epigenetic Biomarkers and Applications for Liquid Biopsy Based Diagnostics

Message from the Guest Editor

Epigenetic changes are associated with many clinical indications and health issues. Similar to clinical epigenetics, the liquid biopsy approach primarily emerged in the field of cancer diagnostics. In recent years, other common diseases have also been studied to further implement the concept of liquid biopsy for these clinical indications. The detection of tissue-specific and disease-related epigenetic modifications at the DNA, RNA and protein levels in peripheral blood or other sample types has the potential to provide molecular diagnostic methods to improve clinical decision-making in precision medicine in the near future.

More than a decade ago, epigenomics began with a single DNA methylation marker; now, Grail currently uses more than 100,000 DNA methylation sites for the detection of cancer-specific epigenetics alterations in cell-free DNA from blood plasma. By building on these improvements, in the future, we expect that the combination of epigenetic markers and technical analytical developments will improve the liquid biopsy approach and pave the way for a wide range of innovative applications.

Guest Editor

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