Research demonstrates clinical applicability of blood biopsy technology, 10/16

At the AACC show 2016

October 2016—U.K.-based Angle plc presented a poster by researchers from the University of Texas MD Anderson Cancer Center describing clinically relevant results from a study using Angle's Parsortix cell separation system to harvest breast cancer cells in blood for subsequent molecular characterization.

The research team, led by James M. Reuben, PhD, professor, Department of Hematopathology, MD Anderson Cancer Center, confirmed the ability to perform advanced molecular analysis on breast cancer cells isolated from blood samples using the Parsortix liquid biopsy technology. The researchers note the ability of the Parsortix method to harvest circulating tumor cells without the use of antibodies.

In the study, titled "Antibody-free microfluidics-based circulating tumor cell enrichment by Angle plc Parsortix and downstream molecular characterization by Affymetrix branched DNA technology," researchers describe the advantages of being able to perform gene expression analysis on the harvested cells.

Following capture of breast cancer cells that were spiked into healthy donor blood samples, the researchers measured the expression of several genes, including specific breast-cancer-related genes. The study results show high specificity for detection of the targeted genes and strong sensitivity for highly expressed genes in dilutions of the harvested cell extracts. The ability to measure gene expression in CTCs has the potential to provide more clinically actionable information than simple detection or quantification of tumor cells in blood.

This new research demonstrates the potential to obtain particularly detailed information from CTCs regarding the cells being analyzed. Liquid biopsy using the Parsortix system, combined with molecular characterization of the CTCs, can be repeated over time without requiring surgical removal of a tumor sample. It offers a less invasive and more personalized approach to monitoring for response to therapy and disease progression.

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