Liquid Biopsy Breast Cancer Diagnostics

Predictive Test for Neoadjuvant Therapy

Technology

Only 20-30% of breast cancer patients achieve a pathological complete response to cancer treatment given before surgery (neoadjuvant therapy). The remaining 70-80% receive ineffective treatments associated with unnecessary toxicity. Until now, no commercial test has been available to predict therapy response before or during neoadjuvant treatment.

We present the first and only liquid biopsy test addressing an unmet clinical need in breast cancer patient care. This test is able to predict neoadjuvant therapy response using a simple blood draw. By analyzing up to six novel protein biomarkers, including N-cadherin, hepatocyte growth factor receptor, centrosomal protein Cep192, contactin-1, cholinesterase, and specific immunoglobulin components, the test provides clinicians with real-time insight into how individual patients will respond to neoadjuvant treatment and enables evidence-based decisions for the next treatment steps. Patients identified as likely non-responders can avoid months of poorly tolerated chemotherapy with doubtful benefit and instead be redirected to alternative treatment strategies that may prove more effective.

With an estimated 300,000 patients receiving neoadjuvant therapy annually in the US and Europe alone, and a projected test price point of $1,500, comparable to existing multi-biomarker diagnostic tests, the total addressable market represents $450 million in annual revenue potential.

The technology has further advanced since patent filing. New confidential information is available upon request. The inventors are open to collaborations for further development.

Innovation

- Sensitive and specific test for neoadjuvant response prediction
- Multiple protein analysis from blood samples
- Track therapy response during treatment

Applications

- Women in need of neoadjuvant breast cancer therapy
- Continued testing during cancer treatment
- Monitoring of treatment progress

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