



# Circulating Tumor Cell Detection with New Reagents (20140299, Dr. Jayanth Panyam)

## New Reagents Bind a Breast Cancer Cell Protein

It has been determined that circulating breast cancer cells differentially express a specific type of membrane protein, and have developed immune reagents that bind selectively to this protein. These reagents could be used for more effective detection of breast cancer circulating tumor cells (CTCs) and could also help develop methods to deliver therapeutic agents to metastatic cancer cells. This new method is highly sensitive and eliminates the need for enrichment steps.

## Insufficient CTC Detection Methods

Tumor metastasis is the primary cause of cancer-related deaths. Early detection of CTCs has emerged as an important new prognostic and stratification procedure. CELLSEARCH<sup>®</sup> is the only available FDA-approved CTC detection system. It detects a tumor cell surface marker called EpCAM; however, studies have shown that a majority of CTCs don't express EpCAM.

Furthermore, EpCAM-negative CTCs may be more metastatic than those that are EpCAM-positive. Improved methods are needed for CTC detection.

## BENEFITS AND FEATURES OF MARKER TO IDENTIFY BREAST CANCER CTCs:

- Highly sensitive
- Marker detection is more accurate than EpCAM detection
- Developed reagents effectively bind the novel marker

**Phase of Development** In vitro and in vivo assessment. Mouse data show the immune reagents specifically identify CTCs.

Researchers have developed a new reagent to identify tumor cells.

## Researchers

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