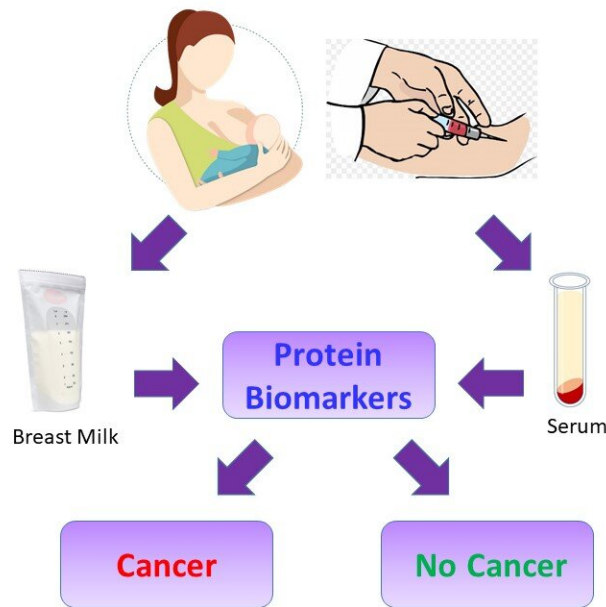


# Scientists identify cancer biomarkers in breast milk

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A newly identified set of protein biomarkers could allow breast cancer screening in breast milk or blood serum. Credit: Danielle Whitham, Clarkson University

A simple blood test for women of all ages and risk levels could one day be possible thanks to a new set of protein biomarkers that researchers identified using breast milk.

"Although mammograms are a useful tool for catching [breast cancer](#)

early, they aren't typically recommended for low-risk women under 40," said Danielle Whitham, a doctoral candidate at Clarkson University in New York. "Because the biomarkers we found in [breast milk](#) are also detectable in blood serum, screening could potentially be done in women of any age using blood or breast milk."

The newly identified biomarkers are for a specific type of cancer called invasive ductal carcinoma (IDC), one of the most common types of breast cancers. However, the researchers say that their approach could be used to identify biomarkers for other types of breast cancer.

"If our future studies are successful, it could change how women are monitored for breast cancer and aid in earlier diagnosis," said Whitham. "This could even lead to a higher survival rate in women."

Whitham will present the research at the American Society for Biochemistry and Molecular Biology annual meeting during the Experimental Biology (EB) 2022 meeting, to be held April 2–5 in Philadelphia.

"We used breast milk because it contains proteins, [epithelial cells](#) and immune cells, all of which provide a great deal of information about what is happening in a woman's body during a crucial time in breast development," said Whitham.

For the study, breast milk samples were obtained from three women diagnosed with breast cancer and three women without cancer. Using [liquid chromatography](#) with tandem mass spectrometry, the researchers compared the relative levels of certain proteins between the two groups to identify differences in the women with cancer. The analysis revealed 23 proteins that were dysregulated. All the proteins that showed differences were previously shown to play a role in cancer or tumor development.

Now that the researchers have identified a biomarker set, they plan to confirm it with a larger group of women. Then, they will test the protein biomarkers' applicability in [blood serum](#). If those tests are successful, a [blood test](#) could be developed to be used on women of any age to monitor protein changes for detection of breast cancer.

**More information:** Conference: [www.experimentalbiology.org/](http://www.experimentalbiology.org/)

Abstract: [www.eventscribe.net/2022/EB202 ... ?posterTarget=463537](http://www.eventscribe.net/2022/EB202...?posterTarget=463537)

Provided by Experimental Biology

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