



Early detection of ovarian cancer using a multiprotein classifier

A blood test for detecting ovarian cancer with over 90% accuracy by monitoring key protein levels.

Technology No. 2022-271

IP Status: US Patent Pending

Applications

- Blood test for ovarian cancer detection
- Clinical decision support tool

Key Benefits & Differentiators

- **Potential increased survival:** This blood test overcomes the limitations of existing blood tests that are not sufficiently accurate and has potential to increase survival of women with ovarian cancer
- **Increased sensitivity and specificity:** Inclusion of the proteins HE4, ITGAV, and SEZ6L improved the sensitivity and specificity of CA125 alone for detecting ovarian cancer

Technology Overview

When ovarian cancer is detected early, the survival rate is high. Unfortunately, existing blood tests are neither sensitive nor specific enough to screen women for ovarian cancer. By determining the levels of 92 cancer-related proteins in the blood of women with ovarian cancer compared to healthy women, researchers at the University of Minnesota have developed a test for ovarian cancer detection. The researchers tested the blood of more than 400 women and identified four proteins (CA125, HE4, ITGAV, and SEZ6L) that, when combined, successfully detected over 90% of the women with ovarian cancer. Subsequently, 700 additional blood samples were tested, and the combination of the four proteins successfully distinguished the majority of the blood samples from women with both early and late stage ovarian cancer compared to healthy women. The inclusion of the proteins HE4, ITGAV, and SEZ6L improved the sensitivity and specificity of CA125 alone for detecting ovarian cancer in serum samples. This test shows commercial potential as a sensitive and specific blood test for detecting

ovarian cancer.

Phase of Development

TRL: 3-4

This blood test has been validated in a large independent cohort of serum samples from women with ovarian cancer.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

- [Amy Skubitz, PhD](#) Professor, Department of Laboratory Medicine & Pathology
- [Ashley Petersen, PhD](#) Associate Professor, Division of Biostatistics

References

Boylan, K.L.M.; Petersen, A.; Starr, T.K.; Pu, X.; Geller, M.A.; Bast, R.C., Jr.; Lu, K.H.; Cavallaro, U.; Connolly, D.C.; Elias, K.M.(2022), <https://doi.org/10.3390/cancers14133077>, <https://www.mdpi.com/2072-6694/14/13/3077>, 14, 3077

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