

Research suggests new possibility for treating aggressive ovarian cancer

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A recent discovery by researchers from the Cancer Science Institute of Singapore (CSI Singapore) at the National University of Singapore (NUS) may lead to a new treatment strategy for an aggressive ovarian cancer subtype.

Ovarian cancer is the most deadly gynecological cancer and it is the seventh most common cancer in women worldwide. Most women with ovarian cancer are diagnosed at the advanced stage, which is more difficult to treat.

In a study led by Dr Ruby Huang, Principal Investigator at CSI Singapore, researchers identified a molecule called AXL which is found to trigger the spread of an aggressive form of ovarian cancer called the Mes subtype. This is one of two aggressive subtypes of ovarian cancer – the other subtype is called Stem-A – that was identified by Dr Huang's group in an earlier study. These two subtypes of [ovarian cancers](#) have a higher ability to undergo Epithelial-Mesenchymal Transition (EMT). EMT is the process by which epithelial cells transform into mesenchymal cells, which have been associated with aggressive metastatic cancer.

By carrying out experiments on Mes subtype ovarian cancer cells, Dr Huang and her team found that AXL, when activated, was able to interact with other proteins in the cell to form a cellular pathway that contributes to the aggressive spread of ovarian [cancer cells](#). Results from this study were published in the October issue of the journal *Science Signaling*.

New hope for treating advanced ovarian cancer

Currently, there is no specific [treatment](#) for the Mes ovarian cancer subtype, and the findings from this study suggest that blocking AXL could be an effective treatment option for these patients.

"Though earlier studies have suggested the role of

AXL in contributing to the spreading of [ovarian cancer cells](#), no study has investigated the AXL function in ovarian cancer with different molecular backgrounds. This study builds upon our previous efforts in understanding the biology among different ovarian cancer subtypes, and the current finding represents an advancement into novel roles of AXL in ovarian cancer and brings another layer of sophistication in ovarian cancer treatment," said Dr Huang.

The research team from CSI Singapore is collaborating with several pharmaceutical companies to develop anti-AXL drugs, in order to bring the discovery from bench to bedside for ovarian cancer treatment. Dr David Tan, who holds dual appointments with CSI Singapore and National University Cancer Institute, will be leading the clinical development of the anti-AXL treatment.

More information: J. Antony et al. The GAS6-AXL signaling network is a mesenchymal (Mes) molecular subtype-specific therapeutic target for ovarian cancer, *Science Signaling* (2016). [DOI: 10.1126/scisignal.aaf8175](https://doi.org/10.1126/scisignal.aaf8175)

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