Medical Xpress

Possible drug target found for one of the most aggressive breast cancers

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Van Andel Research Institute (VARI) investigators have identified a gene that could be an important therapeutic target in the treatment of the most aggressive forms of breast cancer. Currently, patients with these cancers have few treatment options.

"Breast cancer mortality rates are actually declining, but the cancers that don't respond to traditional treatments tend to be more aggressive and have decreased survival rates," said VARI Research Scientist Carrie Graveel, Ph.D., lead author of the study published this week in Proceedings of the National Academy of Sciences U.S.A.

Researchers found that the Met gene may play a critical role in the development of an aggressive form of breast cancer known as basal breast cancer.

"Met has already been associated with decreased survival in breast cancer, but this study identifies its importance in specific types that can be distinguished at the molecular level," said VARI Distinguished Scientific Fellow George Vande Woude, Ph.D., who heads the laboratory that conducted the research.

In the 1980's, Dr. Vande Woude's laboratory at the National Cancer Institute demonstrated that inappropriate levels of Met occur in human tumors, and that cells with inappropriate Met signaling dramatically impact the spread of cancer. This signaling is implicated in most types of human cancers and high Met expression often correlates with poor

prognosis.

"We found Met in the majority of breast cancers," said VARI Research Technician Jack DeGroot, another of the study's authors. "But levels were highest in aggressive types, making Met a promising drug target that could help patients that currently have few treatment options."

According to the American Cancer Society, breast cancers account for more than one in four cancers diagnosed in women in the United States. The National Cancer Institute estimates that 40,170 women in the U.S. will die from breast cancer in 2009.

"This very exciting work by the Van Andel Research Institute gives us a new target for treatment of patients with one of the worst types of breast cancer — basal breast cancer," said Dr. Daniel D. Von Hoff, Physician-in Chief of the Translational Genomic Research Institute (TGen) in Phoenix, Arizona, which initiated an alliance with Van Andel Institute in February. "Since there are many new inhibitors of Met available for clinical trials, we now have a direct route for immediate application of these important findings in the care of patients with this very aggressive form of breast cancer."

Source: Van Andel Research Institute