

Mayo Clinic receives FDA approval for ovarian and breast cancer vaccines

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Mayo Clinic has received investigational new drug approval from the Food and Drug Administration for two new cancer vaccines that mobilize the body's defense mechanisms to destroy malignant cells. The vaccines are among the first aimed at preventing cancer recurrence. The approval clears the way for Phase I clinical trials with women treated for ovarian or breast cancer.

"People who've had cancer are at high risk for relapse, and later rounds of treatment can become more difficult," says Mayo Clinic immunologist Keith Knutson, Ph.D., who developed the vaccines with colleagues at Mayo Clinic. While most cancer vaccines to date have been developed to fight patients' tumors, Knutson's group is interested in immunizing patients immediately after therapy, when they're healthy, to protect against relapse.

One new vaccine targets a protein that exists in abundance in breast and [ovarian cancer cells](#). Containing fragments of the folate receptor alpha protein, the vaccine teaches the body's immune system to detect and eliminate [diseased cells](#). Because the protein is typical of nearly all breast and ovarian tumors, the vaccine is the first that may be applicable to the majority of patients, instead of sub-populations with distinct types of cancer.

"I'm quite optimistic that if we can combine early detection, effective conventional therapies and vaccination, we can reduce recurrence and long-term morbidity associated with breast and ovarian cancer," Knutson

says. Ultimately, the vaccine may be useful as a preventive strategy for all women.

The second vaccine to receive FDA approval is designed to be administered after [breast cancer patients](#) receive conventional chemotherapy. It targets the highly aggressive Her2/neu molecule, a protein that promotes the growth of cancer cells.

"One of the greatest fears for women who've been treated for breast cancer is that the cancer will return," Knutson says. "Our hope is that the vaccine will boost the cancer-fighting capabilities of the immune system and will be a leg up on this aggressive cancer after conventional treatment is complete."

More information:

<http://www.fda.gov/BiologicsBloodVaccines/DevelopmentApprovalProcess/InvestigationalNewDrugINDorDeviceExemptionIDEProcess/default.htm>

Provided by Mayo Clinic

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