

New approach in the treatment of breast cancer

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Scientists at the MedUni Vienna, in collaboration with a working group led by Nancy Hynes at the University of Basel, have discovered a new approach in the treatment of breast cancer: an international team involving the Clinical Institute of Pathology at the MedUni Vienna has been able to demonstrate the activation of a receptor, the Ret protein (Rearranged during transfection), on the surface of breast cancer cells. Increased levels of this protein are associated with a lower likelihood of survival for breast cancer patients.

"Our results reveal that the Ret enzyme (Ret kinase) may be an attractive and novel [therapeutic target](#) in selected groups of breast cancer patients," says Lukas Kenner from the Clinical Institute of Pathology at the MedUni Vienna and Head of the Vienna team, summarising the results of the study that have now been published in the magazine *EMBO Molecular Medicine*.

Initial trials with specific Ret inhibitors have shown that the spread of cancer and the number of metastases in the lungs can be reduced if the activity of the Ret enzymes in [tumour cells](#) is blocked. The tests so far have used two blocking substances that are already known.

Blockade of the Ret enzyme reduces tumour growth

The scientists investigated tumour tissue from more than 80 [breast cancer patients](#), using antibodies to quantify the Ret protein in the samples. In other experiments, four different cancer cell lines were used to investigate the effect of Ret inhibitors on the progression and spread of breast cancer. Says Kenner: "Our results show that blocking Ret kinase can reduce the growth and spread of tumours within the body and therefore could well represent a promising new treatment."

Blocking receptor enzymes with antibodies or low molecular weight inhibitors is an approach that has already been tried in clinical practice as treatment for cancer. However only a proportion of patients is eligible for this type of treatment. "As a result, more efforts are needed to find additional inhibitors that can block [breast cancer](#)", says Kenner.

More information: Gattelli, A. et al. Ret inhibition decreases growth and metastatic potential of estrogen receptor positive breast cancer cells, *EMBO Molecular Medicine*, June 17, 2013. [DOI: 10.1002/emmm.201302625](#)

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