

# Heparin-like compounds inhibit breast cancer metastasis to bone

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Researchers from VTT Technical Research Centre of Finland have in collaboration with the University of Turku, Indiana University and two Finnish companies, Biotie Therapies Corp. and Pharmatest Services Ltd, discovered a novel mechanism regulating the development of breast cancer bone metastases and showed that heparin-like compounds can potentially be used to inhibit breast cancer metastasis to bone.

These findings were published on the *Molecular Cancer Research* journal website on 20th April 2012.

The researchers at VTT used RNA interference-based screening in [breast cancer cells](#) and found that an enzyme that modifies heparan sulfate glycosaminoglycans, HS6ST2, is an important regulator of breast cancer cell - bone interactions. Heparin, which is commonly used as an anticoagulant, also inhibited this regulatory mechanism.

Experiments in a mouse model of breast cancer bone metastasis indicated that heparin-like compounds decreased bone destruction and tumor growth in bone. One of these heparin-like compounds, developed by Biotie Therapies, has a significantly reduced anticoagulant activity as compared to heparin, which improves its applicability as a potential cancer therapeutic agent.

Breast cancer that has metastasized to bone is currently an incurable disease, causing significant morbidity and mortality.

Provided by VTT Technical Research Centre of Finland

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