

Possible treatment for serious blood cancer

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A single antibody could be the key to treating multiple myeloma, or cancer of the blood, currently without cure or long-term treatment.

"We tested the antibody in various ways, including on [tumour cells](#) from myeloma patients that have been transplanted into mice. The tests showed that the antibody is able to destroy [myeloma cells](#)", explains Markus Hansson, a researcher at Lund University in Sweden.

Using a 'biological library' of thousands of antibodies from the company BioInvent in Lund, the team singled out antibody BI-505, shown to have a powerful effect on the tumour cells in both cell studies and animal experiments. It has also been tested in an initial safety study on seriously ill patients, and a study of its treatment effects has just started.

"This study will include patients who have just been diagnosed and therefore still feel fairly well. We want to test the [antibody treatment](#) before the patients are treated with any other drugs", says Markus Hansson.

Today there are a number of drugs to treat [multiple myeloma](#), but no cure. None of the drugs are able to eradicate the disease, meaning [cancer cells](#) increase in number after a period of remission. Survival has been extended with new treatments, but less than half of all patients live longer than five years from diagnosis.

Myeloma occurs when a specific type of cell in the bone marrow is converted into tumour cells. Blood formation is disrupted and patients

suffer from a lack of blood resulting in fatigue. The bones can be weakened with a risk of fractures and compacted vertebrae, and patients sometimes suffer [kidney failure](#) as a result of the disease.

Antibodies are a part of the immune system, fighting off foreign bodies. Antibody-based drugs are now used to treat certain [inflammatory diseases](#) and types of cancer.

The treatment study in Lund will involve 15 patients and is expected to be completed this year. If the results are good, Markus Hansson and his colleagues hope to be able to continue testing BI-505 in larger-scale studies. They will be studying the best way of using the new antibody: alone or in combination with other drugs; at the start of the disease or at a later stage.

More information: Hansson, M. A Human ICAM-1 Antibody Isolated by a Function-First Approach Has Potent Macrophage-Dependent Antimyeloma Activity In Vivo, *Cancer Cell*, 23(4) pp. 502 - 515. [DOI: 10.1016/j.ccr.2013.02.026](#)

Provided by Lund University

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