

New discovery brings hope to treatment of incurable blood cancer

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Multiple myeloma is one of the most common blood cancers, and at present considered to be incurable. In a new study from Uppsala University, researchers now present a conceptually new model for the development and progression of multiple myeloma. The study was done in collaboration with Vrije Universiteit Brussels and is published in the July edition of the on-line journal *PLoS ONE*.

Using large cohorts of myeloma patients the researchers have identified a profile of genes that are silenced by epigenetic mechanisms in the malignant plasma cell.

"This silencing may lead to the uncontrolled growth of the malignant cells", says Helena Jernberg Wiklund, professor at the Department of Genetics and Pathology, Rudbeck Laboratory, Uppsala University and one of the investigators in the study.

The silenced gene profile was compared and contrasted to normal plasma cells, which are highly specialised and for which growth and lifetime is tightly controlled.

The silenced genes have a common denominator in being targets and controlled by the Polycomb repressor complex (PcG). This complex has previously been implicated in self-renewal and division of normal [embryonic stem cells](#). In the study the researchers found that inhibitors of PcG also could decrease the growth of tumour cells in an [animal model](#) of myeloma.

"A new strategy for treating [multiple myeloma](#) could be to develop drugs that are targeted to the PcG complex, leading to reactivation of the silenced gene profile", says Helena Jernberg Wiklund.

More information: Read the article in [PLos ONE](#).

Provided by Uppsala University

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