New discoveries in skin cancer: protein inhibits formation of metastases

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The danger of melanomas lies in the fact that they encourage the formation of new lymph vessels (lymphangiogenesis) at a very early stage and can therefore produce metastases very early on.

It is therefore crucial to find proteins that inhibit the process of lymphangiogenesis. In a study carried out by Heide Niederleithner from the University Department of Dermatology at the MedUni Vienna, it has now been demonstrated that Wnt1 is a protein capable of inhibiting lymphangiogenesis and the formation of metastases in cases of malignant melanoma.

Pre-clinical studies have shown that the increased release of a signal protein, known as Wnt1, inhibits the formation of new lymphatic

pathways and therefore the development of metastases. This effect of Wnt1 was previously unknown and has now been discovered and patented by researchers at the MedUni.

“There are currently no therapeutic concepts that are able to affect lymphangiogenesis. The discovery of this new, anti-lymphangiogenic function of Wnt1 represents an important step towards being able to use it on patients with melanoma at some stage in the future,” says Heide Niederleithner from the University Department of Dermatology (Department of General Dermatology).

The results of the study provide a starting point for further efforts to research this field, says Peter Petzelbauer from the University Department of Dermatology and senior author of the study, which has now been published in the highly respected *Journal of Investigative* Dermatology: “There are already other studies going on to find even more selective substances than Wnt1 and to research the signal pathways in even more detail.”

More information: “Wnt1 Is Anti-Lymphangiogenic in a Melanoma Mouse Model.” Heide Niederleithner, et al.. *Journal of Investigative Dermatology* advance online publication, 10 May 2012; doi:10.1038/jid.2012.138.

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