

Dermato-Oncology Award 2011



Prof. Carola Berking has received the Dermato-Oncology Award 2011 of the Arbeitsgemeinschaft für Dermatologische Forschung (ADF). In her publications, the Munich professor has dealt with the issue "Molecular Mechanisms in Malignant Melanoma".

Prof. Carola Berking, MD, has been working scientifically and clinically in the field of melanoma for 15 years. Starting with the evaluation of tumor markers in peripheral blood of melanoma patients including the detection of tyrosinase and other melanoma antigens by RT-PCR, she soon concentrated on the role of growth factors and cytokines in melanoma development and progression. These factors regulate tumor-stroma interaction and facilitate growth and invasion of melanoma cells. Prof. Berking found transforming growth factor beta (TGF β) to be crucial for stroma activation, which in turn led to increased survival and metastatic potential of melanoma cells *in vitro* and in a mouse model *in vivo*.

In normal skin, melanocytes are dependent on the expression of different growth factors, such as bFGF, HGF or SCF, by the cells in their immediate environment. Dr. Berking showed that this homeostatic balance of growth factor expression can be disrupted by ultraviolet radiation, and in a human skin graft mouse model it was demonstrated that human melanoma-like tumours can be induced by the cutaneous overexpression of melanocytic growth factors (bFGF, SCF, ET-3) in combination with exposure to UVB irradiation.

The current focus of melanoma research is based on the hypothesis that during melanocyte development features of embryonal (neural crest) cells, such as high proliferative potential, migratory potential and plasticity, are also characteristics of melanoma cells and regulated by the same transcription factors that are re-expressed in cancer. Prof. Berking et al. have identified SOX9 and SOX10 transcription factors as essential regulators of stem cell marker nestin in melanoma cells *in vitro* and found SOX9/10 expression in melanoma tissues *in situ*. The biological role of both factors in melanoma is currently investigated.

The price of the ADF is sponsored by the European Skin Cancer Foundation and awarded annually for excellent, innovative and pioneering research of young scientists in the field of dermato-oncology.

- [References \(PDF\)](#)
- [The winners 2011 \(PDF\)](#)