

Dermatological Research at the University of Eastern Finland

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The University of Kuopio and University of Joensuu merged on 1 January 2010, forming the University of Eastern Finland (UEF). Research at the Department of Dermatology at UEF/Kuopio University Hospital has been closely linked to: 1) the Mast Cell Network (MaCNet) in Nordic countries, coordinated by Professor Gunnar Nilsson, Department of Medicine, Karolinska Institutet, Stockholm; 2) the COST Action BM1007 "Mast Cells and Basophils - Targets for Innovative Therapies" (http://www.cost.esf.org/domains_actions/bmbs/Actions/bm1007); 3) the European Mast Cell & Basophil Research Network (EMBRN) (<http://www.embrn.eu/>); 4) the Nordic Competence Network on Mastocytosis, coordinated by Associate Professor Hans Hägglund, Karolinska Institutet; and 5) the Cancer Center of Eastern Finland (a strategic UEF project). The department's mast cell researchers also contributed to the EU FP6 Marie Curie EST program (#504926, MCCID, Mast Cells and Chronic Inflammatory Diseases) between 2004 and 2008.

Mast cells have long been recognised for their detrimental role in allergic diseases. Recent experimental results suggest that mast cells are far more versatile than was previously thought, promoting and maintaining chronic inflammation in different tissues by expressing cytokines and cell surface molecules and by interacting with effector T cells and antigen-presenting cells. Furthermore, experimental evidence obtained in animal and cell culture models during the last few years suggests that mast cells are even more complex since they can also perform

immunosuppressive functions in certain disease conditions, for example by interacting with regulatory T cells. Moreover, mast cells may also protect against severe bacterial and parasite infections and the effects of insect and snake bites by releasing proteolytic enzymes and TNF- α . There is a need to clarify these mechanisms in humans since mast cells have long been a target in therapeutics. Human skin provides an excellent tissue for modelling different disease conditions in whose immunopathogenesis proinflammatory and/or immunosuppressive factors participate.

To clarify these questions, our research makes use of clinical skin disease models, cell culture models and animal models. The function of mast cells and their relation to other cells of the immune system are being investigated in the following registered PhD thesis projects:

1. Mireille-Maria Suttle: Immunopathogenesis of psoriasis induced by the tape-stripping technique.
2. Antti Kaukinen: Immunopathogenesis of epithelial skin cancer, from actinic keratosis to invasive SCC.
3. Tiina Ilves: Immunopathogenesis of atopic dermatitis.
4. Tiina Lipitsä: Immunopathogenesis of cutaneous vasculitis.
5. Nicolae-Costin Diaconu: Mast cells in human epithelial cancers.



Prof Ilkka Harvima, Head of the Department of Dermatology (since 2002).

The Kuopio campus of the University of Eastern Finland

Kuopio University Hospital is visible behind the red UEF Snellmania and Canthia buildings. Arrow is pointing at the Department of Dermatology.



Facts

With approximately 14,000 students and 3,000 members of staff, the University of Eastern Finland is one of the largest universities in Finland. The first professor of Dermatology and Venereology was Maija Horsmanheimo (1978–2002).

Dermatology research staff:

- 1 Professor
- 2 Senior lecturers
- 2 Lab technicians
- 1 Teaching assistant
- 5 PhD students

In addition to the professor/chief physician and 2 senior lecturers, there are 4 staff positions for full-time dermatologists and 2 positions for residents at the dermatological clinic of Kuopio University Hospital.