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Participant 8: GSF-Professor H J Kolb - Hematopoietic Cell Transplantation, Dept. Medicine III, Klinikum der Universität München – Grosshadern, & GSF-National Research Center for Environment and Health, Munich, Germany (KGH)

Prof. Dr. Hans-Jochem Kolb graduated in Medicine from the University of Munich, Germany in 1969, received approbation as physician in 1971, board of Internal Medicine in 1983, of Hematology and Oncology in 1988. Doctoral thesis on sublethal conditioning in 1971, thesis for habilitation (Privat-Dozent) in 1981 on experimental and clinical marrow transplantation, Professor of the University of Munich (C2) 1985, and Prof. of the University of Munich (C3) 1996. He worked as research fellow in experimental and clinical bone marrow transplantation at the Division of Oncology, University of Washington, WA in 1971 – 1973, Head Laboratory for Experimental Marrow Transplantation at the GSF-National Research Center on Environment and Health 1973 – 1977, 1983 until today Head of Clinical Marrow Transplant Program Dept. Medicine III, Ludwik Maximilians University of Munich. Professor Kolb directs an active allogeneic stem cell transplant unit, one of the largest in Germany, specialising in donor lymphocyte infusions (DLI) for generating a graft versus leukaemia effects in transplant recipients. He chaired the EBMT working party on Late Effects and is a member several working parties of the EBMT. He has also been a member of the IBMTR. He employs one PhD research student for performing the molecular studies (Microarray, cDNA Subtraction) and *in vitro* studies (Delta Assay, IFNγ secretion assay, generation of CTLs) as well as to correlate results with genetic and clinical risk factors and aid in data collection and correlation of data with clinical outcome. The focus of the transplantation program is the evaluation of various techniques of inducing graft-versus-leukaemia/ lymphoma/ myeloma reactions (GVL) after allogeneic HSCT, of correlations with in vitro studies and of the relevant immunogenetic background of the various GVL reactions.

Network Team:
Dr Martin Weber is in charge of developing strategies of graft-versus-leukaemia reactions in a preclinical treatment model in the dog. He has defined new minor histocompatibility antigens on haematopoietic progenitor cells in the dog (J. Immunol. 170:5861-8, 2003) as a model of potential targets for GVL reactions in human patients. He showed that *ex vivo* immunized canine T cells effectively eliminate host haematopoietic cells in chimeras. He has been able to induce HSV-Tk suicide genes into canine T cells without hampering their alloimmune function (Bone Marrow Transplant 31:164 abst. 2003). He has developed the Delta Assay as a sensitive test for alloimmune reactions against haematopoietic progenitor cells and translated it from the dog to the clinic. **Dr. Heiko Adler** is an experienced molecular biologist working in the field viral immunity in allogeneic chimeras using mutants of the gamma-herpes virus MHV68. He is supervising the viral immunology program and the molecular techniques defining cDNA including microarray techniques. **Dr. Iris Bigalke** is responsible for the human stem cell laboratory and the cell processing unit. She has particular expertise in the selection ad depletion processes using immunomagnetic beads as well as in immune phenotyping of cell preparations. She is responsible for the laboratory part of the HLA-haploidentical transplantation program. **Ms. Marina Leeping** is an experienced technician with particular knowledge in stem cell and fibroblast culture. She is responsible for the collection and distribution of samples. **Dr. Christoph Schmid** and **Dr. Armin Gerbitz** are responsible for the clinical GVL-program for recurrent leukaemia after allogeneic transplantation and preemptive treatment with donor lymphocyte infusions. The program is divided into myeloid leukaemia (AML, MDS, CML: Dr. Schmid) and lymphoid leukaemia (ALL, high grade lymphoma: Dr. Gerbitz). Furthermore the clinical program comprises a group for the evaluation of microangiopathies headed by **Dr. Andreas Rank.** Other scientific personnel will be involved with individual teaching as follows :-
Lectures: Prof Kolb-Immunobiology of transplantation and leukaemia; Pathophysiology of infection and transplantation immunity; Pathophysiology of stem cell diseases .
Seminars:- Current status of graft-versus-leukaemia and graft-versus-host clinical investigations (weekly)
Courses:

- FACS analysis - **Gisela Werner**
- Culture techniques for stem cell culture – **Marina Leeping**
- Culture techniques for leukaemia cells **– Karin Öttrich**
- Immunomagnetic depletion and selection of cell subsets – **Iris Bigalke**
- Chimerism analysis by STR analysis and cytogenetic analysis **– Martin Weber / Andrea Gräfin Arco-Zinneberg**
- Production of recombinant viruses – **Heiko Adler**

Relevant references
Kolb HJ

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2. Kolb HJ, Schmid C, Barrett AJ, Schendel DJ. Graft-versus-leukemia reactions in allogeneic chimeras. **Blood**. 2003 (in Press)

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1. Weber M, Lange C, Gunther W, Franz M, Kremmer E, Kolb HJ. Minor histocompatibility antigens on canine hemopoietic progenitor cells. **J Immunol**. 2003 Jun 15;170(12):5861-8.
2. Bonini C, Grez M, Traversari C, Ciceri F, Marktel S, Ferrari G, Dinauer M, Sadat M, Aiuti A, Deola S, Radrizzani M, Hagenbeek A, Apperley J, Ebeling S, Martens A, Kolb HJ, Weber M, Lotti F, Grande A, Weissinger E, Bueren JA, Lamina M, Falkenburg JH, Heemskerk MH, Austin T, Kornblau S, Marini F, Benati

C, Magnani Z, Cazzaniga S, Toma S, Gallo-Stampino C, Introna M, Slavin S, Greenberg PD, Bregni M, Mavilio F, Bordignon C. Safety of retroviral gene marking with a truncated NGF receptor. **Nat Med.** 2003 ;9(4):367-9.

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