RCB-Colloquium

Thursday, November 7, 2024 – 14:00 h

H 53

Prof. Dr. Miriam Erlacher

Department of Pediatrics and Adolescent Medicine, Ulm University Medical Center

The ambiguous role of apoptosis in leukemia

A tight regulation of survival and death decisions is required for maintenance, homeostasis and function of the hematopoietic system. Deregulation of apoptosis signaling contributes to many hematological diseases characterized by cytopenia (e.g. severe congenital neutropenia, bone marrow failure syndromes etc.). In addition, apoptosis signaling and its deregulation play major roles during leukemogenesis, and apoptosis resistance is regarded as one of the "hallmarks of cancer" required for full malignant transformation. There is, however, emerging evidence that apoptosis of premalignant cells does not always act as a barrier against malignant transformation but rather can drive compensatory proliferation and selection of individual clones. This drives, on a long run, genomic instability and facilitates the emergence of malignant clones. Our research group is focusing on the role of BCL-2 protein regulated apoptosis in the healthy and the diseased hematopoietic system, with special focus on rare leukemias of childhood (e.g. juvenile myelomonocytic leukemia and myeloid malignancies secondary to bone marrow failure syndromes). To characterize the role of apoptosis and its deregulation, respectively, we use mouse models and primary patient cells.

Host: Prof. Dr. Christoph Engel, Structural Biochemistry
Christoph.Engel@ur.de