

Cell cycle control, apoptosis regulation, transcription, basic cancer research

» Prof. Dr. Kurt Engeland

A perfect control of cell division is important for avoiding the development of cancer. The group's studies focus on interaction partners and transcriptional control of central regulators of the cell cycle and apoptosis. During cell division a number of important cell cycle proteins are synthesized periodically dependent on transcription. The focus is on transcriptional control of Cyclin A, Cyclin B1, Cyclin B2, Cyclin B3, Cdk1, Cdc25A, Cdc25C, B-myb, p53Cdc, RHAMM and other important genes. In the promoters of these genes we have identified novel sites for cell cycle regulation which we have named CDE, CHR and SIRF.

Often the function of tumor suppressors like p53 is to arrest cell division and to send a damaged cell into apoptosis. The group is working on identifying transcriptional targets of p53. Thereby they

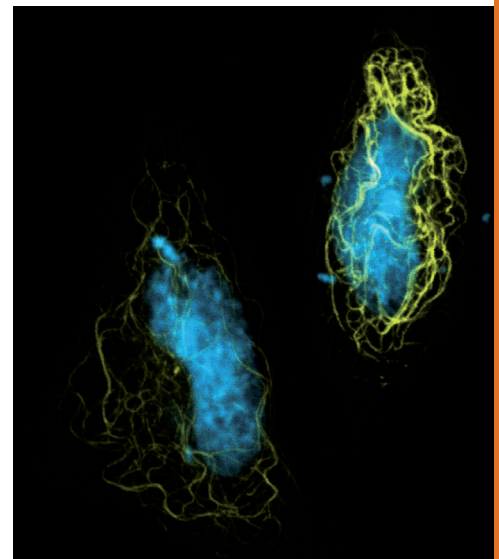
discovered new signaling pathways leading to cell cycle arrest and apoptosis.

Another center of attention is the function of p63 and p73, two new members of the p53 family. Furthermore, the researchers look at the subcellular localization of cell cycle proteins and work to find a correlation with their function.

Also, they are identifying interacting proteins for central cell cycle regulators. This will lead to a better understanding of cell cycle control and cancer development.

Keywords

- Cell Cycle Control
- Apoptosis Regulation
- Transcription
- Basic Cancer Research



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