WWTF Project LS05-040

Proliferation control in tumor stem cells

Abstract

The past years have seen a change in our view of cancer development: It is now thought that tumors contain so-called cancer stem cells which can regenerate any cell type in the tumor. This proposal aims at understanding the mechanisms regulating self renewal in tumor stem cells to develop new strategies for fighting cancer. Genes regulating proliferation will be identified in a genome wide RNAi screen in Drosophila melanogaster neural precursor cells. In a second approach, we will derive neural stem (NS) cells from mouse embryonic stem (ES) cells and test their ability to induce brain tumors under various mutant conditions. Using this model, we will test candidate genes involved in proliferation control and epigenetic stability. Furthermore, we will use the model to test the evolutionary conservation of the genes identi-fied in Drosophila.

Keywords:

stem cell, cancer, brain tumor, molecular medicine

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Further links about the involved persons and regarding the project you can find at

https://archiv.wwtf.at/programmes/life_sciences/LS05-040