

Stellingen
behorend bij het proefschrift

**THE TUMOR MICROENVIRONMENT AS THERAPEUTIC TARGET IN
PEDIATRIC ACUTE LEUKEMIA**

1. Primary acute lymphoblastic leukemia cells use tunneling nanotubes to signal to mesenchymal stromal cells and thereby trigger cytokine secretion. (this thesis)
2. Inhibiting tunneling nanotube signaling is a promising approach to induce apoptosis and sensitize acute lymphoblastic leukemia cells toward prednisolone. (this thesis)
3. Tunneling nanotube signaling between leukemic cells and mesenchymal stromal cells is inhibited by disrupting actin not tubulin. (this thesis)
4. Tunneling nanotubes facilitate the transfer of adhesion molecules, mitochondria, and autophagosomes from leukemic cells to mesenchymal stromal cells. (this thesis)
5. Acute lymphoblastic leukemia cells alter the chemoattractive properties of their niche, priming it for leukemic cell migration and repelling the migration of healthy hematopoietic cells. (this thesis)
6. The biology of tumors can no longer be understood simply by enumerating the traits of the cancer cells but instead must encompass the contributions of the tumor microenvironment to tumorigenesis. (Douglas Hanahan and Robert A. Weinberg, *Cell* 2011)
7. The interactions of bone marrow stromal cells with tumor cells are important in tumor drug resistance through complex cytokine and adhesion-mediated mechanisms. (Douglas McMillin *et al.*, *Nature Medicine* 2009)
8. Cancer cells within one tumor communicate with each other in a complex but ordered manner that is by itself reminiscent of a functional organ. (Matthias Osswald *et al.*, *Nature* 2015)
9. Leukemic proliferation in the bone marrow alters the stromal microenvironment and creates malignant niches that outcompete native hematopoietic progenitor cell niches for CD34⁺ cell engraftment. (Angela Colmone *et al.*, *Science* 2008)
10. Cancer cells are just as dependent on healthy cells as we are. (Bob de Rooij)
11. "Arguing that you do not care about the right to privacy because you have nothing to hide is no different than saying you do not care about free speech because you have nothing to say." (Edward Snowden)

Bob de Rooij
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