

Stellingen behorende bij het proefschrift

1. It is always worth it to follow your dreams. They will always lead you to magical places.
2. The road that *ended up at stem cells* (Weissman, *Immunol Rev* 2002), is still paved of unresolved questions and constitutes one of the most challenging walk for modern scientists
3. The fact that "mTOR is dysregulated in many human diseases and that rapamycin may be therapeutically useful to treat them" (Corradetti and Guan, *Oncogene* 2006) calls for a more comprehensive understanding of the mTOR-dependent pathways.
4. Mice overexpressing MN1 in the bone marrow rapidly develop myeloproliferative disease, whereas mice overexpressing MN1 in conjunction with CBF β -SMMHC rapidly develop AML. (*This thesis*)
5. MN1-TEL is a hematopoietic oncogene that stimulates the growth of early hematopoietic cells (*This thesis*).
6. Forced expression of TEL2 in Arf $^{-/-}$ mouse bone marrow causes expansion of a B cell population that predisposes mice to develop B-ALL bearing features of human B-ALL (*This thesis*).
7. The generation of monoclonal antibodies by George Kohler and Cesar Milstein (Kohler and Milstein, *Nature* 1975), and the development of the fluorescence activated cell sorter by Leonard Herzenberg (Hulett *et al.*, *Science* 1969) have allowed us to isolate stem cell populations, but have not obviated the need to further define their identity.
8. One of the most critical tasks of today's cancer research is to define the molecular and biochemical identity of those cells able to generate and sustain the growth of neoplastic foci. Once we will know the face of the enemy we will be ready to start the true fight.
9. Despite the promise of gene expression profiling as a tool to provide a specific signature for different hematological malignancies relevant for the identification of critical pathways and for targeted pharmaceutical approaches, the method does not obviate the need for rigorous biological testing.
10. The discovery of Amniotic Fluid-derived Stem (AFS) cells (De Coppi *et al.*, *Nature Biotechnology* 2007) holds great promises for advanced therapeutical applications and overcomes the ethical concerns raised against the use of human embryonic stem cells.
11. The remark of the Cheshire-Cat to Alice "*we're all mad here. I'm mad. You're mad... You must be or you wouldn't have come here*" (from Alice's Adventure in Wonderland, by Lewis Carroll) is equally applicable to wonderland as it is to science.