

## *Propositions (Stellingen)*

### **Identification and characterization of cells with stem cell properties in normal and malignant muscle cultures**

1. A single marker (CD24) can be used to enrich cells sharing common properties with stem cells from normal and malignant muscle cultures. (This thesis)
2. "Even in the era of molecular therapies, myoblast or other stem cell therapies are still highly relevant". (Briggs & Morgan, FEBS Journal 2013)
3. Upon transplantation into injured muscle of immunodeficient mice, CD24-ve cells contributed robustly to the formation of new muscle fibers. (This thesis)
4. Contribution to generation of new myofibers upon secondary transplantation strongly suggests that these CD24-ve cells underwent self-renewal in vivo. (This thesis)
5. "Here we provide evidence that adult muscle stem cells have self-renewal capacity in vivo by demonstrating that after transplantation a single cell is capable of both producing copies of itself and generating more specialized progenitors." (Sacco et al., Nature 2008)
6. Cells sharing features with satellite cells can be also isolated using a preplating approach. (This thesis)
7. Purified skeletal muscle progenitors engrafted into muscle of dystrophin-deficient mdx mice, are able to contribute myofiber formation, restoring dystrophin expression. (Cerletti et al., Cell 2008)
8. Tumor initiating cells (TIC) can be isolated from both mouse and human rhabdomyosarcoma (RMS) using the same single marker CD24. (This thesis)
9. The isolation of TIC in RMS should facilitate the development of novel therapies. (This thesis)
10. "Carcinomas are caricatures of tissue renewal, in that they are composed of a mixture of malignant stem cells, which have a marked capacity for proliferation and a limited capacity for differentiation under normal homeostatic conditions, and of the differentiated, possibly benign, progeny of these malignant cells." (G. B. Pierce, W. C. Speers, Cancer Research 1988)
11. "Between what I think, what I want to say, what I think I'm saying, what I'm actually saying, what you want to hear, what you are hearing, what you think you are understanding, what you want to understand, and what you understand, there is at least, nine possible possibilities not to understand each other". (Bernard Werber, *l'Encyclopédie du Savoir Relatif et Absolu*).