PROPOSITIONS

Novel Regulators of Prostate Cancer Stem Cells and Tumor Aggressiveness

1. Intra-tumor heterogeneity represents a relevant problem in the identification of therapeutic strategies capable to eradicate completely all the different cancer cell subpopulations and clones that maintain the cancer. *(this thesis)*
2. miR-25 is a key regulator of invasion and metastasis in human prostate cancer stem cells *in vitro* and *in vivo*. *(this thesis)*
3. One single microRNA can downregulate multiple genes at the same time, leading to a global functional effect that logically cannot be entirely reproduced by the downregulation of a single gene. *(this thesis)*
4. Cripto and Grp78 represent compelling molecules for targeting and monitoring of highly aggressive stem/progenitor-like prostate cancer cells in advanced human prostate cancer. *(this thesis)*
5. Targeting of cancer stem cells is a current priority in cancer research and is the key to make manipulation of cancer stem cells applicable.
6. Zebrafish embryos represent an excellent model for the study of single or clustered cells behaviour *in vivo*.
7. microRNAs are powerful regulators of protein abundance and when delivery into targeted cells will go beyond physiological and cellular barrier, they will represent interesting targets for cancer therapy.
8. Exosomes contain microRNAs and mediate the cross-talk between the primary tumor and the future metastatic “soil”.
9. Science is organized knowledge. Wisdom is organized life. (Immanuel Kant, 1724-1804).
10. The great tragedy of Science — the slaying of a beautiful hypothesis by an ugly fact. (Thomas Henry Huxley, 1825-1895).
11. Anything that can go wrong, will go wrong. (Edward A. Murphy, 1918-1990).

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