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Multimodal image-guided interventions using oncological biomarkers

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Stellingen behorende bij het proefschrift:

Multimodal image-guided interventions using oncological biomarkers

1. The ideal tumor marker should be; positive in patients only if cancer is present or in progress, correlated with stage and response to treatment, repeatedly detectable, and easily measured. (Coppolino et al. 2014)
2. There are 12 different molecular definitions of cell death determined, however, in the majority of settings there will be crosstalk between the cell death subroutines, they are almost never exclusive. (Galluzzi et al. 2012)
3. Cancer research will become an increasingly logical science, in which myriad phenotypic complexities are exceptions to certify the rule. (Hanahan&Weinberg 2011)
4. Specificity and expression level are, for the development of a cancer vaccine, considered as the 4th and 5th criteria. However, for the development of targeted contrast agents they are the most essential criteria. (Cheever et al. 2009, this thesis; chapter 3)
5. Relative quantification with optical imaging is sufficient in preclinical research however for clinical translation absolute quantification is necessary. (this thesis; chapter 2, 6, Weissleder&Pittet et al. 2008)
6. There is not a single imaging modality which is able to provide anatomical, physiological, biological and molecular information. (this thesis; chapter 2,4)
7. The goal of imaging is to provide a better outcome. Nevertheless, the definition of a better outcome differs between different perspectives. (this thesis; chapter 2)
8. In general, it is not key which type of cell death takes place after cancer treatment as long as the integrity of cell membrane is disrupted. (this thesis; chapter 5)
9. It is advantageous to combine different imaging modalities at different timepoints during cancer treatment while using one targeting moiety. (this thesis; chapter 4,7)
10. Patience is wisdom. (Saint Augustine 418) *Promoveren is naast hard werk ook heel veel geduld hebben.*
11. One never notices what has been done; one can only see what remains to be done. (Marie Curie 1894) *Wetenschappelijk onderzoek levert altijd meer nieuwe vragen en experimenten op dan dat er antwoorden zijn.*
12. It's always further than it looks. It's always taller than it looks. And it's always harder than it looks. (the three rules of mountaineering, unknown author) *Zonder doorzettingsvermogen kun je niet promoveren want er moet altijd meer gedaan worden dan je denkt, ook wanneer je denkt er bijna te zijn.*
13. People are people, and I'll be myself. Regardless, the path I follow I will follow on. (Nishida Kitaro (1934) *Er is niet één juiste weg richting de eindstreep, de promotie, echter je kunt het alleen bereiken door bij jezelf te blijven.*