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Cancer vaccine strategies to improve immunotherapy: many roads lead to Rome

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Citation

Tondini, E. (2021, October 21). *Cancer vaccine strategies to improve immunotherapy: many roads lead to Rome*. Retrieved from <https://hdl.handle.net/1887/3217801>

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Stellingen behorend bij het proefschrift getiteld
CANCER VACCINES STRATEGIES TO IMPROVE IMMUNOTHERAPY
Many roads lead to Rome
by Elena Tondini

1. TLR ligands conjugated to peptide vaccines have higher potential as they mimic natural pathogens by delivering antigen and PAMPS in the same dendritic cell (*this thesis*)
2. Cancer vaccines should comprise multiple epitopes to increase the chance to simultaneously induce relevant CTL and Helper T cell responses (*this thesis*)
3. Polynucleotide sequences represent a promising platform for multi-epitope vaccine delivery (*this thesis*)
4. The rational integration of different cancer therapies is crucial for the successful treatment of patients, and cancer vaccines are one of the building blocks for this. (*this thesis*)
5. There are now many lessons that have been learnt about the induction of effective anti-tumor T cell immunity and that can be applied to the current development of cancer vaccines.
6. Selection of the right antigen for cancer vaccines is still an open challenge.
7. Frameshift mutations may represent a promising source of tumor-specific antigens.
8. We envisage a multiphasic approach, wherein the first phase involves tumour debulking with surgery, chemotherapy or radiotherapy, while the second phase would involve vaccination that helps reduce the number of residual cancer cells and establishes immunological memory to prevent remission. - **Saxena et al**, *Therapeutic cancer vaccines*, *Nat Rev* 2021
9. Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that! - **Alice In Wonderland**. *Progress in immunotherapy requires a massive effort to first assimilate and then surpass current knowledge.*
10. Non fuit in solo Roma peracta die, non venit exiguo tempore larga seges. – **Latin saying**. *Rome was not built in one day.*
11. Above all, don't fear difficult moments. The best comes from them. – **Rita Levi-Montalcini** awarded 1986 Nobel Prize in Physiology or Medicine. *Both in science and in life.*