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Dissecting the immune microenvironment of breast cancer

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**Stellingen behorend bij het proefschrift getiteld:
“Dissecting the immune microenvironment of breast cancer”**

1. CD4⁺ T cells play a crucial role in the formation of mammary tumor metastasis in the MMTV–PyMT breast cancer mouse model; however, it remains uncertain whether this mechanism applies to other types of breast cancer (*Adapted from DeNardo et al., Cancer Cell, 2009*).
2. The absence of the complete adaptive immune does not impact mammary tumorigenesis or metastasis formation in MMTV-NeuT mice (*this thesis*).
3. Spontaneous tumors have different chemotherapy response profiles compared to inoculated tumor cells isolated from these spontaneous tumors (*Adapted from Olive et al., Science, 2009*).
4. The concept of immunogenic tumor cell death has been established in transplantation models but needs further analysis in a larger set of *de novo* tumor models that represent different solid human cancer types (*this thesis*).
5. The beauty of science is not in its certainty, but in its constant pursuit of truth (*Adapted from Karl Popper*).
6. Blocking the CSF-1/CSF-1R signaling pathway, essential for macrophage survival, is an attractive strategy to eliminate or reprogram macrophages and suppress tumor growth in preclinical studies (*Adapted from Kowal et al., Immunotherapy, 2019*).
7. Therapeutic efficacy of targeting macrophages and neutrophils in cisplatin-treated KEP mice is mediated by the induction of type I interferon and by unleashing anti-tumor immune responses. Further research is needed to understand the molecular mechanisms of type I IFN signaling and its impact on neutrophil function (*this thesis*).
8. Chemotherapy is not able to activate adaptive immunity powerful enough to overcome the immunosuppressive networks in the microenvironment of established spontaneous tumors (*this thesis*).
9. There are active interests in the development of clinically more effective combination therapies that combine IFN-I based therapies with for instance immune checkpoint inhibitors or chemotherapy (*Adapted from Arico from Cancers, 2019 and Cheon et al., Trends Cancer, 2023*).
10. It's not about how fast you go, but about not giving up on your journey (*Adapted from Confucius/ Kǒng Fūzǐ*).