



Universiteit
Leiden
The Netherlands

Systemic immune dynamics in cancer

Bakker, E.A.M.

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Stellingen behorende bij het proefschrift getiteld:

Systemic Immune Dynamics in Cancer

1. The immune system is continuously engaged in a silent war against emerging tumour cells. (*Frank Macfarlane Burnet, circa 1957*).
2. The immune system is a double-edged sword in cancer: it can attack tumor cells but also help them grow and metastasize. (*Karin E. de Visser, inaugural lecture 2019*).
3. Cancer is a systemic disease, and prolonged inflammation is a hallmark of cancer. (*L.M. Coussens & Z. Werb, Nature, 2002; this thesis*).
4. The blood immune profile of breast cancer patients becomes increasingly dysregulated with disease progression and molecular subtypes are associated with distinct changes in the immune landscape, with the strongest alterations seen in TNBC. (*This thesis*).
5. Neutrophils contribute to tumor initiation, progression and metastatic spread. Reprogramming neutrophil phenotypes may unlock new strategies for cancer treatment. (*D.E.M. Duits & K.E. de Visser, Semin Immunol., 2021; Ng et al., Science, 2024; this thesis*).
6. Response to immune checkpoint inhibitors in breast cancer is shaped by the interplay between tumor-intrinsic features and the tumor immune microenvironment. (*V. Geurts & M. Kok, Curr. Treat. Options in Oncol., 2023; this thesis*).
7. DNA tattoo vaccination is a biologically active and safe treatment strategy in patients with HPV induced malignancies and T-cell reactivity against the HPV oncogenes is associated with clinical benefit. (*Tang et al., Viruses, 2022; this thesis*).
8. Integrating comprehensive immune profiling of cancer patient samples with mechanistic investigations in clinically relevant mouse models enables the discovery of novel mechanisms underlying immunotherapy response and resistance, and reveals new therapeutic opportunities. (*This thesis*).
9. Talent wins games, but teamwork and intelligence win championships. (*Michael Jordan, 1990s*). Teams can solve complex problems more effectively by leveraging the combined knowledge and diverse perspectives and talents of team members.
10. Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less. (*Marie Skłodowska-Curie, ~1920-1930*). May the work presented in this thesis replace a little bit of fear with hope.
11. With passion, support, and perseverance, it is possible to pursue a PhD and thrive as a devoted, loving mother and partner. (*This thesis and the wonderful people on the front row prove that*).