

Cancer immunotherapies

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Propositions

belonging to the thesis "Cancer immunotherapies: challenges and opportunities for NK cells in the tumor microenvironment"

- The level of HLA-E expression on tumor cells should be assessed for NK cell immunotherapy as high HLA-E levels inhibit NK cells but low HLA-E levels enhance NK cell responses *in vitro* (this thesis).
- 2. ADCC-triggering antibodies combined with KIR-HLA mismatched donor NK cells have the potential to improve NK cell-based immunotherapy considering the results in our *in vitro* models of both multiple myeloma and breast cancer (this thesis).
- 3. NK cell-based immunotherapy approaches using expanded NK cells are promising to target tumors that reside in a low glucose environment (this thesis).
- 4. NK cells degranulate and secrete IFN-γ in response to *in vitro*generated tumor-associated macrophages, suggesting that NK cell therapy can also be utilized to target and repolarize the immunesuppressive tumor microenvironment (this thesis).
- 5. Selection of the optimal therapeutic strategy for each individual patient will be a next step on the road to success of immunotherapies.
- 6. To achieve sustained anti-tumor effects, cell therapies of expanded and/or genetically engineered immune cells combined with antibodies or other drugs are required for the majority of cancers.
- 7. Remaining challenges of immunotherapies include tumor resistance mechanisms and the complexity and costs of manufacturing the immune cells for adoptive cell therapy.
- Donor-derived expanded NK cells are an ideal source for adoptive cell therapy due to their enhanced anti-tumor activity and favorable cost effectiveness compared to autologous NK- or T cell approaches (Impact paragraph).
- 9. There is no real ending, it's just the place where you stop the story. Frank Herbert

Femke Ehlers 16th of February 2023