Propositions

To the thesis

Regulation of intra-tumoral T cell immunity in liver cancer

By Guoying Zhou

1. HCC TIL that express co-inhibitory receptors may be tumor-reactive T cells, which continue upregulating these receptors in response to chronic stimulation by tumor antigens to prevent further over activation, and thereby are subsequently inhibited by interactions of these receptors with their ligands. (This thesis)
2. The difference in responsiveness to PD-1/PD-L1 blockade between MMR-deficient and MMR-proficient CRC may relate to MMR-deficient tumors containing higher numbers of mutations, which result in more mutation-encoded neo-antigens, thereby eliciting stronger anti-tumor T cell responses. (This thesis)
3. The small proportion of $LAG3^+$ TIL in LM-CRC may be enriched with tumor antigen-specific T cells, which are known to constitute only a small proportion of TIL, while PD-1 is expressed on a larger fraction of TIL which might contain more non-tumor-specific T cells. (This thesis)
4. $Foxp3^+$ Treg are both inside the tumor and at tumor margin of cholangiocarcinoma, but $CD8^+$ T cells are predominantly sequestered at tumor margin, suggesting that tumors may suppress immigration of cytotoxic immune cells, which is a way of immune evasion. (This thesis)
5. The reported functional effects of antibodies on effector T cells in our *ex vivo* assays may be partly indirect, mediated by immune suppressor cells, and the effects of some antibodies on effector T cells might even be counteracted by their effects on suppressor cells. (This thesis)
6. Shoot for the moon. Even if you miss it you will land among the stars. --Les Brown
7. Everything is theoretically impossible, until it is done. --Robert A. Heinlein
8. Research is what I'm doing when I don't know what I'm doing. --Wernher von Braun
9. Medicine is a science of uncertainty and an art of probability. --William Osler
10. Opportunities come to those who are prepared.
11. No pain, no gain.