

PROPOSITIONS TO THE THESIS

Microbiome and Molecular Characterization of Neoplasms in Pancreas and Intestine

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1. The pancreatic cyst is home to a previously unsuspected and also unique bacterial ecosystem. (this thesis)
2. The organization of bacterial communities into biofilms (higher-order spatial structures of bacterial species) may be necessary for bacteria-induced colorectal cancer initiation. (this thesis)
3. Biofilms may also contribute to the specific mucinous phenotype observed in 10-15% of colorectal cancers (CRCs). This was inspired by the preferential proximal location of both mucinous CRCs as well as tumor-associated biofilms. (this thesis)
4. Post-translationally modified ATOH1 regulates mucinous differentiation in colorectal cancer. (this thesis)
5. Commonly observed C-terminal truncations of RNF43 retain their function to downregulate β -catenin signaling, and therefore do not confer Wnt-dependency onto colorectal cancers. (this thesis)
6. A sizable fraction of cancer is heritable, but known common variants explain only a limited percentage of the genetic burden in cancer. (Huang, K. L. et al. *Cell* 2018)
7. Our resident microbes likely influence the initiation and progression of tumorigenesis by modulating most, if not all, established host factors that comprise the hallmarks of cancer. (Fulbright, L. E. et al. *PLoS Pathog.* 2017)
8. It is important to remember that these gut microorganisms are not sole influencers of cancer and that numerous other factors are at play. (Elinav, E. et al. *Nat. Rev. Cancer* 2019)
9. In the tumour microenvironment, there is a dynamic interactive network that includes neoplastic cells, microorganisms, and immune cells, all of which are affected by the genetic architecture and epidemiological factors including ageing, diet, nutrition, smoking, alcohol, adiposity, diabetes mellitus, physical exercise, and medication. (Hamada, T. et al. *J. Pathol.* 2019)
10. The microbiome, which refers to microbiota within a host and their collective genomes, is becoming increasingly recognised for its influence on host immunity, as well as therapeutic responses to cancer treatment. (McQuade, J. L. et al. *Lancet Oncol.* 2019)
11. 学而不思则罔，思而不学则殆。Learning without thought is pointless; thought without learning is dangerous. (Confucius)