

Propositions

Modeling infection and antiviral therapy of enteric viruses using primary intestinal organoids

- 1, Even though rotaviral enteritis is in general self-limiting, infected transplantation patients usually require intensive care, rehydration nutritional support, and benefit from prevention. (*This thesis*)
- 2, Human organoids efficiently support the infection of patient-derived rotavirus strains and can be potentially harnessed for personalized evaluation of the efficacy of antiviral medications. (*This thesis*)
- 3, I have identified MPA as a potent inhibitor of rotavirus infection with a high barrier to resistance development, apparently acting via the inhibition of the IMPDH enzymes to deplete cellular nucleotide pools. (*This thesis*)
- 4, I have identified 6-TG as a potent inhibitor of rotavirus infection, acting via the inhibition of Rac1 activation. (*This thesis*)
- 5, PI3K-Akt-mTOR signaling is essential for sustaining rotavirus infection. Thus, blocking key elements of this pathway, including PI3K, mTOR and 4E-BP1, results in potent anti-rotavirus activity. (*This Thesis*)
- 6, Mini-guts present an opportunity to exploit in a variety of ways the distinct morphogenetic characteristics of adult stem cells. (*Sato et al. Science 2013*)
- 7, It is more difficult to recognize infection in transplant recipients than it is in persons with normal immune function, since signs and symptoms of infection are often diminished. (*Jay A. Fishman. The New England Journal of Medicine 2007*)
- 8, Try not to become a man of success, but rather try to become a man of value. (*Albert Einstein*). Similarly one should not pursue high profile publication as a goal *per se*, but for maximizing the impact of research on science and clinical practice.
- 9, 孙子兵法: “知己知彼, 百战不殆” (If you know the enemy and know yourself, you need not fear the result of a hundred battles. From *The Art of War* wrote by *Sun Tzu*). Similarly, if one he knows his own work well and has a good command of the biomedical literature one need not fear scientific interrogation.
- 10, My powers are ordinary. Only my application brings me success. (Attributed to *Isaac Newton*). Similarly, application of available technology to new research questions is a fruitful approach
- 11, Carelessness is the stumbling block towards success. (*myself*)