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Title: Anti-glycan antibody responses during infection with *Schistosoma*: Searching for the sweet spots

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Stellingen behorend bij het proefschrift

Anti-glycan antibody responses during infection with *Schistosoma* Searching for the sweet spots

1. The abundant presence of antibodies directed against highly fucosylated schistosome glycans in hosts that have developed resistance to schistosome infection suggests the involvement of these antibodies in a protective immune response (this thesis).
2. Comparing antibody responses in protected and non-protected hosts longitudinally is necessary for better understanding how a host develops protection against schistosome infection (this thesis).
3. The high individual variance in anti-glycan antibody responses of schistosome-infected individuals implies that a large number of individuals with well-defined infection profiles should be examined before antibodies to specific glycan antigens can be identified as markers for schistosome infection (this thesis).
4. The partial protection of rats against schistosome infection, induced by vaccination with a minimal glycan epitope, holds promise for the development of a glycan-based vaccine against schistosomiasis (this thesis).
5. When making associations between antibodies and infection parameters of a schistosome-infected individual, the antibody isotype and subclass should be considered equally important as the antibody specificity and titer.
6. Whether it is required, when identifying a suitable vaccine candidate, to select key schistosome molecules that are exposed to the host immune system and are essential for parasite survival (Tebeje *et al.* *Parasite vectors*, 2016; 9(1):528), depends on the protective mechanisms induced by the vaccine.
7. Plant glycoengineering, which is a maturing technological approach to produce immunomodulatory helminth proteins with desired glycosylation (Wilbers *et al.* *Sci Rep*, 2017; 7:45910), could also be applied to the production of glycan-based helminth vaccines.
8. Despite the identification of many vaccine targets (McManus *et al.* *Semin Immunopathol*, 2020; 42(3): 355–371), the development of a schistosomiasis vaccine will remain a scientifically very challenging process until the protective mechanisms and correlates of protection related to immunity against schistosome infection have been identified.
9. In order to deepen relationships and excel in anything, one must learn to embrace frustrations rather than avoiding them.
10. Being mature is to face all encounters in life with the same diligence and gratitude.
Inspired by the poem 'If' by Rudyard Kipling.
11. Writing propositions is a difficult task for someone who likes to be agreeable.

Ya-Yi Michelle Yang
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