Noroviruses are the leading cause of non-bacterial acute gastro-enteritis worldwide and are estimated to cause up to 200,000 deaths in children younger than 5 years. Host genetic susceptibility to norovirus illness has been investigated showing that individuals carrying the non-secretor phenotype are resistant to infection with most norovirus strains. The non-secretors carry a mutation in a gene called FUT2, which renders them without correct receptors for norovirus infection. 20% of the Caucasian population is non-secretors. However, over the years several strains infecting non-secretors has been discovered. The bovine norovirus cause gastroenteritis in cattle but antibodies to the bovine strain have been found in humans. Is there a risk of zoonotic transmission of bovine norovirus from cattle to humans?

In this thesis I show that secretors, in both Sweden and Nicaragua, have significantly higher antibody titers to GII noroviruses than non-secretors. I also demonstrate that humans have antibodies to the bovine norovirus strain and that the bovine norovirus have a hemagglutinin on their surface. However, a lot more work needs to be done for us to be able to fully understand all the pieces of the norovirus puzzle.
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