Porcine Rotavirus Isolates for Improved Vaccines: Group A

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Technology description

Summary:
Iowa State University researchers have isolated porcine rotaviruses from Groups A and C that may have utility for improved vaccines and diagnostics.
Description:
Porcine rotavirus is very widespread in pig populations, and young animals are particularly susceptible to infection. Porcine rotavirus also causes significant economic losses to pork producers due to mortality and lost productivity. Rotavirus persists in the environment and resists disinfectants, so management practices are an important part of preventing and controlling infection. There are a wide variety of different porcine rotavirus strains, with Group A rotaviruses of G9 genotype representing the majority of contemporary group A porcine rotaviruses causing enteric disease in weaned piglets in the US and elsewhere, and group C rotavirus G6 isolates representing a majority of contemporary type C rotaviruses causing severe diarrhea in neonates. A licensed commercial vaccine is available to help combat infection by porcine rotavirus, but it contains only group A viruses which belong to G4 and G5 types; no vaccine against Group C rotavirus is apparently currently available, so vaccinated pigs or piglets may still be vulnerable to infection. To address this challenge, ISU researchers have recently isolated, characterized, and reliably propagated a Group A rotaviruses of G9 genotype as well as a group C porcine rotavirus G6 from infected piglets showing clinical symptoms. In addition to their utility as reference strains, these rotavirus isolates may also be used for the development of improved vaccines against porcine rotavirus as well as for the production of diagnostic reagents or kits.

Application area

Veterinary vaccines and diagnostics; reference strain

Advantages

• Can be reliably propagated in an in vitro system

• Pure isolate
• Replicates to relatively high titer

Institution

Iowa State University