

Veterinary Researcher Receives Grants

A Kansas State University veterinary researcher is taking aim at swine diseases with the help of two major grants.

Wenjun Ma, associate professor of diagnostic medicine and pathobiology in the **College of Veterinary Medicine** has received a National Institutes of Health R21 grant of \$411,664. His second award of \$303,865 is a contract grant from Merck Animal Health.

The NIH grant will be used to investigate the connections between respiratory swine disease and influenza B virus.

"Unlike influenza A virus that infects a wide range of species, influenza B virus infections are almost exclusively restricted to humans, despite sporadic infections reported in seals," Ma said. "It is unclear whether other animal species can support the replication of influenza B virus and serve as a reservoir."

One of Ma's previous studies provided evidence that domestic pigs are susceptible to influenza B virus infection. Swine herds previously exposed to porcine reproductive and respiratory syndrome virus, or PRRSV, had a higher prevalence of influenza B virus antibodies.

"Studying the differences between human and swine influenza B virus isolates might improve our understanding of how influenza B viruses are maintained when they are not circulating in humans," Ma said. "The results of these experiments would likely reveal new information about the molecular mechanisms of influenza B virus replication and its evolution in nonhuman species, which is an important issue in the influenza research community."

The Merck grant will be used to study the molecular epidemiology and pathogenicity of porcine circovirus 3, or PCV3, in pigs.

"While unproven, we suspect that PCV3 plays an etiologic role in porcine dermatitis and nephropathy syndrome, and may be responsible for reproductive failure," Ma said. "To date, no viruses have been successfully isolated and cultured. In this proposal, we try to address critical questions regarding epidemiology and pathogenicity of PCV3 in pigs by collaborating with Kansas State Veterinary Diagnostic Laboratory."