Epidemiological Survey of Torque Teno Virus (TTV) in Taiwan’s Pig Farms from 2008 to 2009

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ABSTRACT This study was to examine whether Torque Teno Virus (TTV) existed and how prevalent it was in Taiwan’s pig farms. TTV, belongs to the Genus Anellovirus, Family Circoviridae, is a small, non-enveloped, single-stranded and circular DNA virus. TTV can be divided into geno-group 1 and 2 (TTV-1/2) and may play an important role in causing swine diseases. During this study from year 2008 to 2009, 480 serum samples (120 each from 6-, 10-, 16-, and 22-week old pigs) collected from thirty-three pig farms were examined by polymerase chain reaction (PCR) and nested-PCR (nPCR) targeting a fragment of the viral untranslated region (UTR). Genetic sequencing was also performed from at least one of the positive samples from each farm. The nPCR results for the presence of TTV-1/2 were 96.88% /56.3% positive for all 480 pigs, and the positive rates for 6-, 10-, 16- and 22-week old pigs were 94.2% /30.8%, 97.5% /61.7%, 96.7% /67.6%, and 99.2% /65% respectively. Forty-eight TTV-1 and forty-five TTV-2 nPCR positive samples were then analyzed by DNA sequencing. Comparisons of the DNA sequences with the reference Sd-1TTV1p (AY823990) and Sd-2TTV2p (AY823991) showed homologies ranged from 93 to 100% and 92.7 to 100% respectively. Taken together, TTV was widespread in pig farms in Taiwan during the time studied. [*Chang CC, Huang AJ, Shyu BR, Ma WJ, Pang VF, Wang Jh. Epidemiological Survey of Torque Teno Virus (TTV) in Taiwan Pig Farms from 2008 to 2009. Taiwan Vet J 37 (1): 45-52, 2011. * Corresponding author TEL: 886-5-273-2958, FAX: 886-5-273-2917, E-mail: ccchang@mail.ncyu.edu.tw]

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