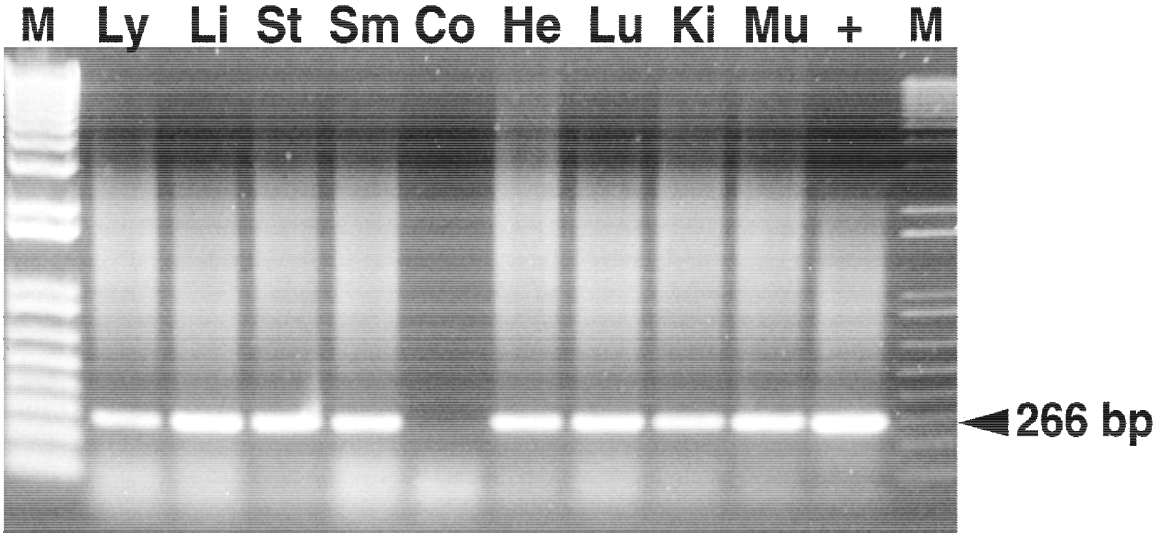

Figure 5. RT-PCR for detection of positive-strand HEV RNA in selected tissue samples from pigs inoculated with human HEV and necropsied at 3 or 7 days post inoculation. M, 1 kb plus ladder; Ly, lymph nodes; Li, liver; St, stomach; Sm, small intestine; Co, colon; He, Heart; Lu, lung; Ki, kidney; Mu, skeletal muscle; +, positive control. The expected PCR product is indicated.

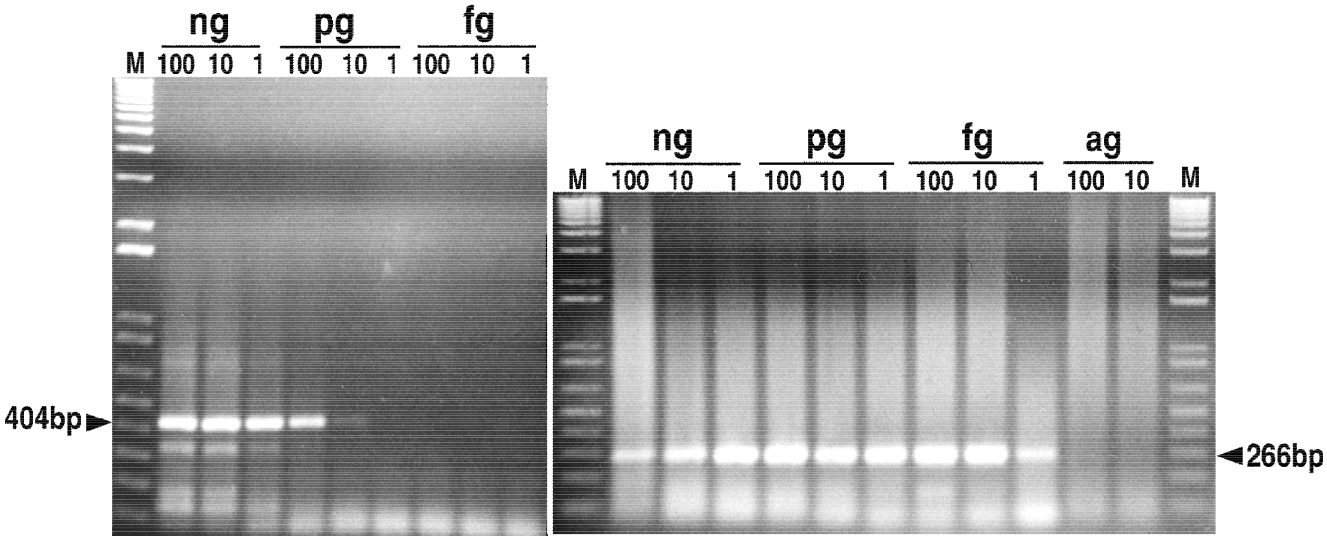

Figure 6. Standardization of negative strand-specific RT-PCR using synthetic HEV RNA transcript. The synthetic negative strand HEV RNA was serially diluted and tested by nested PCR. The expected PCR products in the first and second rounds are indicated. M, 1 kb plus ladder.

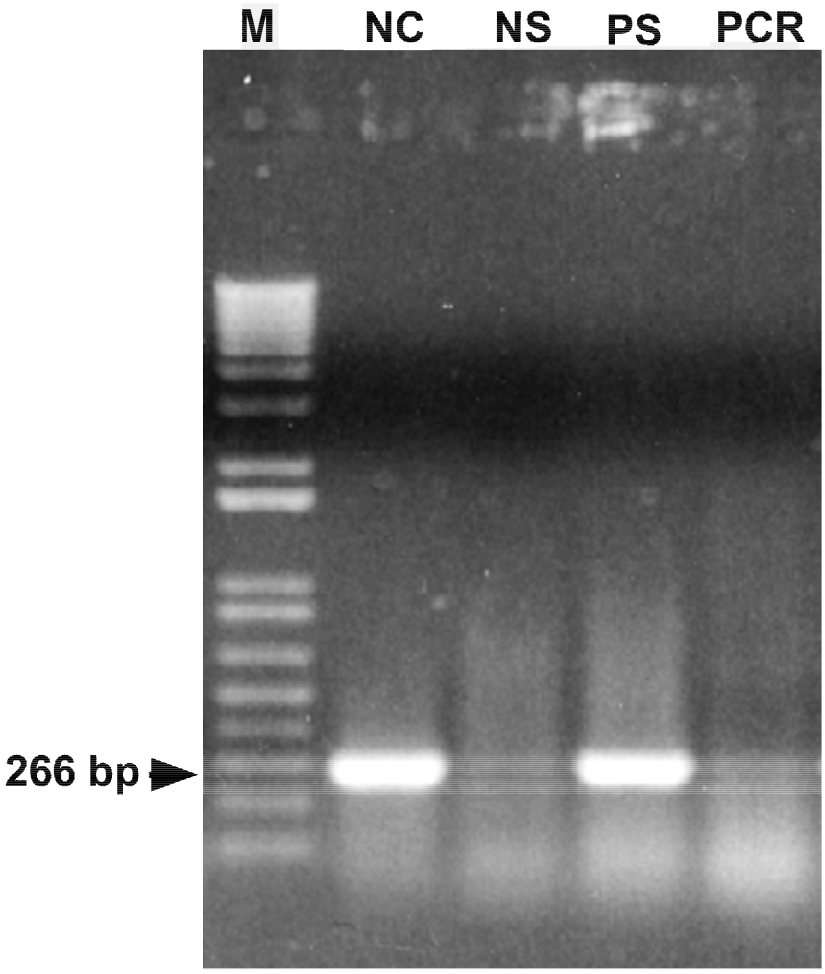

Figure 7. Specificity of the negative strand-specific RT-PCR assay. Testing of a serum sample with the RT-PCR assay for the positive and the negative strand of HEV RNA. M, 1kb plus ladder; NC, negative strand RT-PCR assay performed on synthetic HEV RNA as a control; NS, RT-PCR assay for detection of the negative strand of HEV RNA performed on the selected serum sample; PS, RT-PCR assay for detection of the positive strand of HEV RNA performed on the selected serum as a control; PCR, PCR without the reverse transcription step performed on the selected serum sample as a control. The expected PCR product is indicated.

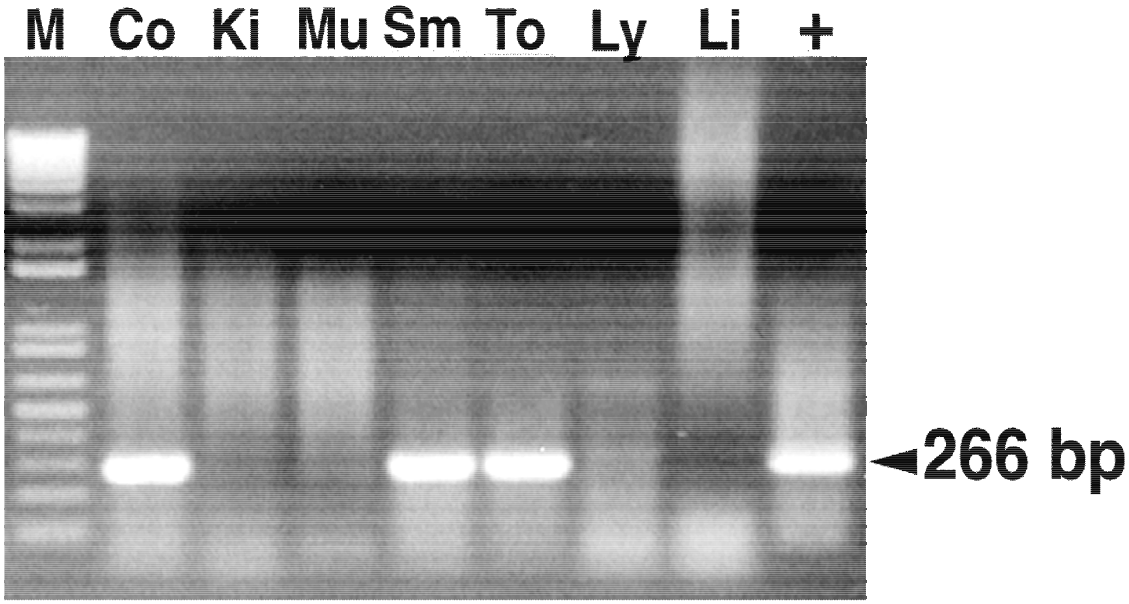

Figure 8. RT-PCR for detection of the replicative, negative strand of HEV RNA in selected tissue samples from a pig inoculated with human HEV and necropsied at 3 days post inoculation (DPI). M, 1 kb plus ladder; Co, colon; Ki, kidney; Mu, muscle; Sm, small intestine; To, tonsil; Ly, lymph nodes; Li, Liver; +, positive control. The expected PCR product is indicated.

Vita

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Education

M.S., Molecular Virology, 1999-2001

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B.S., Biology, 1995-1999

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Projects

examined link between the core protein of the hepatitis C virus, Insulin-like growth factor II (IGF-II) and Hepatocellular Carcinoma (HCC). Investigated and identified extrahepatic sites of replication of the HEV using a swine model to examine infection of swine and human strains of HEV using a negative-strand sensitive RT-PCR assay to identify replicating virus in tissue, organs and fecal samples from infected pigs.

Awards

- Placed 3rd at the VT-GSA 17th Annual Research Symposium at Virginia Tech, in the category of agriculture and animal sciences
- BSI Grant for undergraduate research
- Deans List

Publications and Presentations

T. Williams, C. Kasorndorkbua, P.G. Halbur, G. Haqshenas, D.K. Guenette, T.E. Toth, X.J. Meng (2001) Identification of Extrahepatic Sites of Replication of the Hepatitis E Virus (HEV) in a Swine Model. *17th annual Research symposium, VT-GSAVT, Virginia Tech, March 2001*

T. Williams, C. Kasorndorkbua, P.G. Halbur, G. Haqshenas, D.K. Guenette, T.E. Toth, X.J. Meng (2001) Evidence of Extrahepatic Sites of Replication of The Hepatitis E Virus in a Swine Model. *Journal of Clinical Microbiology* (submitted)

T. Williams, C. Kasorndorkbua, P.G. Halbur, G. Haqshenas, D.K. Guenette, T.E. Toth, X.J. Meng (2000) Extrahepatic Sites of Replication of the Hepatitis E Virus (HEV): Preliminary Evidence from a Swine Model. *Proceedings of the 81st Annual Conference of Research Workers in Animal Diseases, Chicago, IL, November 2000, Pp#171*

Skills

RNA Extraction
PCR
Cell Culture
RT-PCR
Transfection
Cloning and subcloning
Transformation
IFA
Protein Expression
Gel electrophoresis
In vitro Transcription

References

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