

Project 2:**Construction and characterization of infectious cDNA clone of BVDV-3**

Bovine viral diarrhoea virus (BVDV) infection is distributed worldwide and cause important financial lost to the livestock industry. BVDV-1 and BVDV-2, together with *Classical swine fever virus* (CSFV) and *Border disease virus* (BDV) belong to genus *Pestivirus* in the family *Flaviviridae*. Recently, a new species BVDV-3 has been proposed (Liu et al., 2009a, 2009b). The BVDV genome is a single-stranded, positive-sense RNA of 12.5 kb. Several pestiviral infectious cDNAs (including CSFV, BVDV-1 and BVDV-2) have been constructed. However, the study on recently identified BVDV-3 is lacking. We aim to construct infectious BVDV-3 clone for better understanding of viral replication and pathogenesis. The project will be carried out as following:

- 1) PCR amplification of full length BVDV-3.
- 2) Ligation of the purified PCR product to low copy plasmid.
- 3) In vitro transcription.
- 4) RNA transfection of the cells and check the virus by monoclonal antibody and real-time PCR.

References:

Liu L, Kampa J, Belák S, Baule C. 2009a. Virus recovery and full-length sequence analysis of atypical bovine pestivirus Th/04_KhonKaen. *Vet. Microbiol.* 138, 62-68.
Liu L, Xia H, Wahlberg N, Belák S, Baule C, 2009b. Phylogeny, classification and evolutionary insights into pestiviruses. *Virology* 385, 351-357.

Contact person:

Dr. Lihong Liu
Department of Virology, Immunobiology and Parasitology (VIP)
The National Veterinary Institute (SVA)
S-751 89 Uppsala
Telephone +4618674689
Email: Lihong.Liu@sva.se

Duration:

At least 12 weeks

Period:

Starting after August 2010