



## Bovine Viral Diarrhea Virus (BVDV) Diagnostic for Early Detection of Infected Cows and Fetuses

*This technology is co-owned with the University of Wyoming.*

Bovine Viral Diarrhea Virus (BVDV) results in a loss of more than \$400 million annually to beef and dairy producers. This is caused, to some degree, by current vaccines and vaccination programs that are not entirely efficacious. When infected during early pregnancy, immunocompetent pregnant cows clear the virus and become immune (seroconvert), but the fetus develops persistent viral infection. After birth, persistently infected calves that survive continually shed the virus and infect other cattle, thus allowing perpetuation of virus. Identification and elimination of persistently infected cattle are the most cost-effective measure to control and eradicate BVDV, thereby underscoring the critical need for an inexpensive and convenient diagnostic test.

Until recently, no known biomarkers were identified that distinguished between: vaccinated cattle that have seroconverted, infected mothers that seroconverted with acutely infected fetuses, infected mothers that seroconverted with persistently infected fetuses, and persistently infected cattle. This technology utilizes blood cell markers to identify and distinguish all of these conditions. Diagnostics based on the differential expression of these blood cell markers offer opportunities for more discerning identification of infected animals and would greatly benefit the successful implementation of control programs.

**Patent Information:**  
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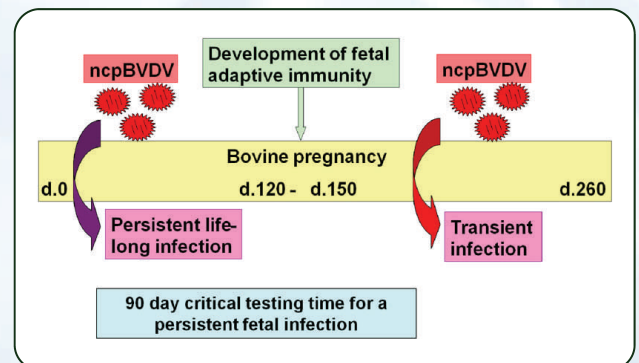
**Inventor Information:**  
Thomas R. Hansen (CSU)  
Natalia P. Smirnova (CSU)  
Kathleen J. Austin (WY)  
Alberto L. van Olphen (WY)

**Related Technologies:**  
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Virus Res. 2008 Mar;132  
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### Features and Benefits

- Several platforms can utilize the biomarkers including microarray, qRT-PCR, and ELISA.
- Biomarkers distinguish between mothers carrying infected and uninfected fetuses.
- Biomarkers identify persistently infected cattle.
- Identified biomarkers may have additional application distinguishing between viral, bacterial, and other inflammatory infections.



**Contact Information:**  
Rod Tompkins  
Phone: 970.491.8316  
Email: rod@microrx.org  
www.MicroRx.org

**Colorado  
State  
University**