

**Development of Modern Detection and Diagnostic Capabilities for
Rift Valley Fever (RVF) and
Foot and Mouth Disease (FMD)**

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Abstract

Rift Valley Fever (RVF) is one of the most rapidly emerging zoonotic diseases, because of (1) the presence of competent wide spread mosquito vectors in the U.S., (2) high mobility of human populations in endemic areas of Africa and the Arabian Peninsula where the disease exists (note the current outbreak in Kenya), and (3) expected economic and public health impacts should the disease be intentionally or accidentally introduced in the U.S. Foot-and-mouth disease (FMD) is a highly contagious disease that affects all economically important US livestock. FMD has not occurred in the US since 1929, but it could be readily introduced, and it would spread rapidly. Introduction of FMD into the US would result in drastic restrictions on animal trade and a loss of faith in the animal agriculture of the country, producing economic hardship and chaos. For these reasons, lack of rapid, accurate, and user friendly diagnostic tests are seriously recognized gaps emerging from recent DHS-ARS-APHIS-CDC workshops. In response, the FAZD Center has drawn upon molecular expertise to derive novel recombinant antigens and associated antibodies to develop a spectrum of diagnostic assays that will now be further tested and developed in collaboration with PIADC, and field tested in Africa and South America.