

Evaluation of Immunogenicity of Candidate Rift Valley Fever Vaccines in Sheep

DHS Priority Areas Addressed	<input checked="" type="checkbox"/> Prevention <input type="checkbox"/> Detection <input checked="" type="checkbox"/> Response <input type="checkbox"/> Recovery <input type="checkbox"/> Education/Risk Communication				
Proposal Section Addressed	Sections 5.1.1, 5.3.4, and 5.3.5				
Investigators	TAMU: Garry Adams,* C.J. Peters and Tilahun Yilma				
Objectives	Deliverables	Progress Toward Deliverables	Percent Complete		
Evaluate candidate RVF vaccines for immunogenicity in sheep	Assessment of safety of vaccines pregnant ewes, particularly abortifacient effects. Comparison of the immunogenicity of vacciniavirus, non-replicating alphavirus and specific deletion mutant RVFV vaccines. Identification of optimal RVFV vaccine candidate for wild type RVFV challenge-infection studies in sheep at PIADC or in international laboratories.	Recalling that this project was only initiated in YR3, progress has been made on assessing protective immunity of UTMB developed MP-12 derivative candidate vaccines in mice at the BSL4 facilities in Dr. CJ Peter's lab at UTMB. No vaccinia-vectored RVF vaccines have yet been delivered from the laboratory of Dr. Tilahun Yilma - UC-Davis to Dr. Peters - UTMB for comparative protective immunity in mice in order to select the optimal vaccine candidate to test for safety and immunogenicity in sheep.	60		
	Receipt and secure storage of RVF vaccine candidates into BSL3 containment	UTMB-Galveston has obtained certification and approval for receiving and conducting experiments in their BSL-3 and BSL-4 facilities. TAMU-CVM BSL3 laboratories & animal facilities are certified & approved by Texas Animal Health Commission, US Department of Agriculture & US DHHS CDC to receive, store & apply only Rift Valley Fever attenuated vaccines for laboratory use & in vivo livestock species safety evaluations.	99		
	Assessment of safety of vaccines in pregnant ewes, particularly abortifacient effects.	Excellent progress has been made to produce 4 candidate MP-12 derived RVF vaccines at UTMB- Dr. CJ Peters and 1 vaccinia vectored RVF candidate at UC-Davis- Dr. Tilahun Yilma in both Project 4C: Development of Safe and Efficacious Vaccinia Virus Recombinant Vaccine for Rift Valley Fever <i>and</i> Project 6: Candidate Rift Valley Fever Vaccines. Additionally, we now have accessibility to the Merial™ Canarypox vectored RVF vaccine, but until the RVF vaccine candidates are completed and protective immunity is evaluated in rodents, there will be no progress for safety or immunogenicity testing in sheep until the optimal candidates are selected based on comparative murine protective immunity experiments are completed.	0		
	Identification of optimal RVFV vaccine candidate for wild type RVFV challenge-infection studies in sheep in international laboratories.	This phase is dependent upon all of above phases before it can proceed.	0		

Highlight for Research Briefs

Interpretive Summary

Results and Interpretations

Technology Transition

Status of Funding