UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL BUDGET JUSTIFICATION, SUBAWARD

A. Senior/Key Personnel

Ralph Baric, PhD Co-Investigator (b) (4), (b) (6). Dr. Baric is a known expert in coronavirus cross species transmission and pathogenesis and has studied this group of viruses for over 30 years. His group developed the first reverse genetic systems for epidemic and zoonotic SARS-like coronaviruses and they have studied the ability of these viruses to replicate efficiently in various primary human airway epithelial cell cultures as well as other key primary cell types. His group has also studied the sensitivity of these viruses to be controlled by existing vaccines and therapeutics both in vitro and in vivo. Dr. Baric will lead the studies at the University of North Carolina at Chapel Hill. He will design research strategies, interpret findings and review research outcomes with Dr. Sims and Mr. Yount. At a regular basis, Dr. Baric will report the results of the teams research to Dr. Daszak and Dr. Shi and together, they will use this information to identify additional research priorities and design downstream studies. Drs. Daszak, Shi and Baric have published together in the past and participated on research project applications. Dr. Baric recently spent several days in Wuhan, China, where he discussed research strategies and collaborations with Dr. Daszak and Dr. Shi. He will work closely with Dr. Sims and Mr. Yount to prepare timely reports, share research and discuss future research directions with the group.

Amy Sims, PhD Co-Investigator (b) (4), (b) (6). Dr. Sims has over 22 years of research studying coronavirus molecular biology, replication and pathogenesis. She has published over 50 papers including seminal papers on characterizing host response patterns of primary human lung airway epithelial cells and other cell types after infection with SARS-CoV, MERS-CoV, influenza and various SARS-like bat coronaviruses. She is not only well versed in the preparation, cultivation and maintenance of primary human lung cells but also proficient at studying virus infection outcomes, in the presence and absence of antiviral therapeutics. In consultation with Dr. Baric, Dr. Sims will design experiments, perform infections and characterize epidemic and bat SARS-like coronavirus replication in human cells. She will compile data and share these results with the research team. Dr. Sims will also interface and work closely with Mr. Yount, who will assist in these studies, including infections, cell preparations and characterizing virus growth efficiency in these cultures. Dr. Sims has over 15 years of experience working in a BSL3 laboratory and oversees the management of these facilities. She has select agent clearance.

B. Other Personnel

Mr. Boyd Yount, Laboratory Technician (b) (4), (b) (6) Mr. Yount has published over 50 papers on coronaviruses and developed the first reverse genetic platforms for SARS-CoV, MERS-CoV and various SARS-like bat coronaviruses. He will work closely with Drs. Barics, Shi and Daszak to design and recover select bat SARS-like coronaviruses for downstream studies in the Baric and Shi laboratories, including characterizing virus phenotypes in primary cells as well as cells expressing various human, civet and bat ACE2 receptors. He will prepare virus stocks, Mr. Yount will work closely with Drs. Baric and Sims to design and implement experiments in the BSL3 laboratory, prepare reports and research outcomes during the course of the program. Mr. Yount has over 15 years of experience in a BSL3 setting and is well versed in all the techniques used in this proposal. He has select agent clearance.

Fringe Benefits. Benefits are for faculty, staff and postdoctoral research associates are calculated as follows: Faculty and Staff – 24.519% Social Security and retirement and $6,104 for health insurance,
Supplies and Reagents. $15,960

C. Equipment

No equipment over $5,000 will be purchased.

D. Travel

No travel will be requested for this subaward. Travel to EcoHealth Alliance and other collaborators will be covered from other UNC funding.