

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		1,118,565.00
Section B, Other Personnel		0.00
Total Number Other Personnel	0	
Total Salary, Wages and Fringe Benefits (A+B)		1,118,565.00
Section C, Equipment		0.00
Section D, Travel		196,990.00
1. Domestic	47,200.00	
2. Foreign	149,790.00	
Section E, Participant/Trainee Support Costs		0.00
1. Tuition/Fees/Health Insurance	0.00	
2. Stipends	0.00	
3. Travel	0.00	
4. Subsistence	0.00	
5. Other	0.00	
6. Number of Participants/Trainees	0	
Section F, Other Direct Costs		1,456,245.00
1. Materials and Supplies	80,250.00	
2. Publication Costs	24,000.00	
3. Consultant Services	398,750.00	
4. ADP/Computer Services	0.00	
5. Subawards/Consortium/Contractual Costs	953,245.00	
6. Equipment or Facility Rental/User Fees	0.00	
7. Alterations and Renovations	0.00	
8. Other 1	0.00	
9. Other 2	0.00	
10. Other 3	0.00	
Section G, Direct Costs (A thru F)		2,771,800.00
Section H, Indirect Costs		814,960.00
Section I, Total Direct and Indirect Costs (G + H)		3,586,760.00
Section J, Fee		0.00
Section K, Total Costs and Fee (I + J)		3,586,760.00

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Ralph	S	Baric		Co-Investigator		(b) (4), (b) (6)					(b) (4), (b) (6)
2 . Dr.	Amy		Sims		Co-Investigator		(b) (6)					
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons: File Name:											Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Laboratory Technician	(b) (4), (b) (6)					(b) (4), (b) (6)
1	Total Number Other Personnel					Total Other Personnel	(b) (4), (b) (6)
Total Salary, Wages and Fringe Benefits (A+B)							

RESEARCH & RELATED Budget [A-B] (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

C. Equipment Description		Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000		
Equipment Item		
Total funds requested for all equipment listed in the attached file		
	Total Equipment	0.00
Additional Equipment: File Name:		

D. Travel		Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)		
2. Foreign Travel Costs		
Total Travel Cost		0.00

E. Participant/Trainee Support Costs		Funds Requested (\$)*
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other:		
Number of Participants/Trainees	Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	15,960.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	15,960.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	50,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. All Direct Costs	55.5	50,000.00	27,750.00
Total Indirect Costs			27,750.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	77,750.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	77,750.00

L. Budget Justification*
File Name: NIAID_COV_2019_UNC_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Ralph	S	Baric		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Amy		Sims		Co-Investigator							(b) (4), (b) (6)
Total Funds Requested for all Senior Key Persons in the attached file											(b) (4), (b) (6)	
Additional Senior Key Persons: File Name:											Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Laboratory Technician		(b) (4), (b) (6)				(b) (4), (b) (6)
1	Total Number Other Personnel						Total Other Personnel
Total Salary, Wages and Fringe Benefits (A+B)							(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

C. Equipment Description		Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000		
Equipment Item		
Total funds requested for all equipment listed in the attached file		
Total Equipment		0.00
Additional Equipment: File Name:		

D. Travel		Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)		
2. Foreign Travel Costs		
Total Travel Cost		0.00

E. Participant/Trainee Support Costs		Funds Requested (\$)*
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other:		
Number of Participants/Trainees		0.00
Total Participant Trainee Support Costs		0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	15,960.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	15,960.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	50,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. All Direct Costs	55.5	50,000.00	27,750.00
Total Indirect Costs			27,750.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	77,750.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	77,750.00

L. Budget Justification*
File Name: NIAID_COV_2019_UNC_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Ralph	S	Baric		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Amy		Sims		Co-Investigator							(b) (4), (b) (6)
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons: File Name:											Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Laboratory Technician	(b) (4), (b) (6)					(b) (4), (b) (6)
1	Total Number Other Personnel					Total Other Personnel	(b) (4), (b) (6)
Total Salary, Wages and Fringe Benefits (A+B)							(b) (4), (b) (6)

RESEARCH & RELATED Budget [A-B] (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	
Total Travel Cost	0.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	15,960.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	15,960.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	50,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. All Direct Costs	55.5	50,000.00	27,750.00
Total Indirect Costs			27,750.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	77,750.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	77,750.00

L. Budget Justification*
File Name: NIAID_COV_2019_UNC_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Ralph	S	Baric		Co-Investigator							(b) (4), (b) (6)	
2 . Dr.	Amy		Sims		Co-Investigator							(b) (4), (b) (6)	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:											File Name:	Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Laboratory Technician	(b) (4), (b) (6)					(b) (4), (b) (6)
1	Total Number Other Personnel					Total Other Personnel	(b) (4), (b) (6)
Total Salary, Wages and Fringe Benefits (A+B)							(b) (4), (b) (6)

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

C. Equipment Description		Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000		
Equipment Item		
Total funds requested for all equipment listed in the attached file		
	Total Equipment	0.00
Additional Equipment: File Name:		

D. Travel		Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)		
2. Foreign Travel Costs		
	Total Travel Cost	0.00

E. Participant/Trainee Support Costs		Funds Requested (\$)*
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other:		
Number of Participants/Trainees	Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	15,960.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	15,960.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	50,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. All Direct Costs	55.5	50,000.00	27,750.00
Total Indirect Costs			27,750.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	77,750.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	77,750.00

L. Budget Justification*
File Name: NIAID_COV_2019_UNC_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Ralph	S	Baric		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Amy		Sims		Co-Investigator							
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											File Name:	
											Total Senior/Key Person	20,319.00

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Laboratory Technician	(b) (4), (b) (6)					(b) (4), (b) (6)
1	Total Number Other Personnel						Total Other Personnel
						Total Salary, Wages and Fringe Benefits (A+B)	

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

C. Equipment Description		Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000		
Equipment Item		
Total funds requested for all equipment listed in the attached file		
Total Equipment		0.00
Additional Equipment: File Name:		

D. Travel		Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)		
2. Foreign Travel Costs		
Total Travel Cost		0.00

E. Participant/Trainee Support Costs		Funds Requested (\$)*
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other:		
Number of Participants/Trainees		0.00
Total Participant Trainee Support Costs		0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 6081952770000

Budget Type*: Project Subaward/Consortium

Organization: The University of North Carolina at Chapel Hill

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	15,960.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	15,960.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	50,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. All Direct Costs	55.5	50,000.00	27,750.00
Total Indirect Costs			27,750.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	77,750.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	77,750.00

L. Budget Justification*
File Name: NIAID_COV_2019_UNC_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

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. Baric, 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.

F. Other Direct Costs

Materials and Supplies. A variety of culture media and serum (\$3,000), primary cell procurement (\$2500), recombinant enzymes (\$1500) and antibodies (\$1500), synthetic DNAs (\$2,500) and an assortment of miscellaneous supplies (e.g., gloves, chemicals, plasticware, etc.)(\$2460) are needed during the course of the program to recover recombinant viruses and maintain cells in culture, perform virus growth curves and identify virus tropisms by immunohistochemistry. In addition, personnel protective equipment (PPE), portal breathing apparatus (PAPR), globes and protective clothing are used in the BSL3 setting (\$2500).

H. Indirect Costs

In an agreement with DHHS dated 11/23/2016 the indirect cost rate for The University of North Carolina is 55.5% of MTDC, excluding equipment and tuition.

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		104,095.00
Section B, Other Personnel		66,105.00
Total Number Other Personnel	5	
Total Salary, Wages and Fringe Benefits (A+B)		170,200.00
Section C, Equipment		0.00
Section D, Travel		0.00
1. Domestic	0.00	
2. Foreign	0.00	
Section E, Participant/Trainee Support Costs		0.00
1. Tuition/Fees/Health Insurance	0.00	
2. Stipends	0.00	
3. Travel	0.00	
4. Subsistence	0.00	
5. Other	0.00	
6. Number of Participants/Trainees	0	
Section F, Other Direct Costs		79,800.00
1. Materials and Supplies	79,800.00	
2. Publication Costs	0.00	
3. Consultant Services	0.00	
4. ADP/Computer Services	0.00	
5. Subawards/Consortium/Contractual Costs	0.00	
6. Equipment or Facility Rental/User Fees	0.00	
7. Alterations and Renovations	0.00	
8. Other 1	0.00	
9. Other 2	0.00	
10. Other 3	0.00	
Section G, Direct Costs (A thru F)		250,000.00
Section H, Indirect Costs		138,750.00
Section I, Total Direct and Indirect Costs (G + H)		388,750.00
Section J, Fee		0.00
Section K, Total Costs and Fee (I + J)		388,750.00

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Wuhan Institute of Virology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Zhengli		Shi		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Peng		Zhou		Co-Investigator							
3 . Dr.	Ben		Hu		Co-Investigator							
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											File Name:	
											Total Senior/Key Person	17,567.00

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	17,567.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	0.00
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,668.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,668.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,649.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,648.00	5,652.00
Total Indirect Costs			5,652.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	76,301.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	76,301.00

L. Budget Justification*
File Name: NIAID_COV_2019_WIV_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Wuhan Institute of Virology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Zhengli		Shi		Co-Investigator							(b) (4), (b) (6)	
2 . Dr.	Peng		Zhou		Co-Investigator								
3 . Dr.	Ben		Hu		Co-Investigator								
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:											File Name:		
											Total Senior/Key Person	17,567.00	

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	17,567.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	0.00
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,668.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,668.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,649.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,648.00	5,652.00
Total Indirect Costs			5,652.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	76,301.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	76,301.00

L. Budget Justification*
File Name: NIAID_COV_2019_WIV_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Wuhan Institute of Virology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Zhengli		Shi		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Peng		Zhou		Co-Investigator							
3 . Dr.	Ben		Hu		Co-Investigator							
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											File Name:	
											Total Senior/Key Person	17,567.00

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	17,567.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	0.00
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,668.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,668.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,649.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,648.00	5,652.00
Total Indirect Costs			5,652.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	76,301.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	76,301.00

L. Budget Justification*
File Name: NIAID_COV_2019_WIV_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Wuhan Institute of Virology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Zhengli		Shi		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Peng		Zhou		Co-Investigator							
3 . Dr.	Ben		Hu		Co-Investigator							
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:		File Name:								Total Senior/Key Person		17,567.00

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	17,567.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs
	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,668.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,668.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,649.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,648.00	5,652.00
Total Indirect Costs			5,652.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	76,301.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	76,301.00

L. Budget Justification*
File Name: NIAID_COV_2019_WIV_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Wuhan Institute of Virology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Zhengli		Shi		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Peng		Zhou		Co-Investigator							
3 . Dr.	Ben		Hu		Co-Investigator							
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											File Name:	
											Total Senior/Key Person	17,567.00

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	17,567.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs
	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 5290274740000

Budget Type*: Project Subaward/Consortium

Organization: Wuhan Institute of Virology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,668.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,668.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,649.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,648.00	5,652.00
Total Indirect Costs			5,652.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	76,301.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	76,301.00

L. Budget Justification*
File Name: NIAID_COV_2019_WIV_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

WUHAN INSTITUTE OF VIROLOGY BUDGET JUSTIFICATION, SUBAWARD**A. Senior/Key Personnel:**

Dr. Zhengli Shi, Co-Investigator. Senior Research Scientist at Wuhan Institute of Virology (WIV) Chinese Academy of Sciences, will commit (b) (4), (b) (6) per year (b) (4), (b) (6) to this project to oversee the laboratory implementation at WIV. At a regular basis, Dr. Shi will meet with other Co-PIs to refine study protocols, report back results, and prepare publications. Dr. Shi has been working on the discovery and characterization of novel viruses from bats and other wildlife since 2004. This included the discovery that Chinese horseshoe bats are the natural reservoir of SARSr-CoVs and the likely origin of SARS-CoV. Her lab at WIV isolated SARSr-CoVs from bats sharing high homology with human SARS-CoV and demonstrated their interspecies transmission risk, largely confirming bats as the source of SARs. She will lead her team to carry out then systematic studies on the epidemiology, genetic evolution, interspecies infection mechanism and pathogenesis of a series of bat-borne CoVs on this R01 renewal proposal.

Dr. Peng Zhou, Co-Investigator. Research Scientist at Wuhan Institute of Virology (WIV) Chinese Academy of Sciences, will commit will commit (b) (4), (b) (6) per year (b) (4), (b) (6) to this project to be in charge of the diagnostics, genomics, and virus isolation work at WIV. Dr. Zhou have been working on bat virology since 2004, who will contribute his expertise in next generation diagnostic tool development for monitoring bat virus spillover, bat pathogen discovery, and bat viral immunology to this R01 renewal proposal.

Dr. Ben Hu, Co-Investigator. Research Associate and coordinator of Shi's laboratory at WIV, will commit (b) (4), (b) (6) per year (b) (4), (b) (6) to this project to directly supervisor the lab technicians, and coordinate with our collaborators in this R01 proposal for communication, reporting, and or organizing meetings. Dr. Hu has been working on discovery and characterization of viruses in small mammals in bats and rodents since 2010 at WIV, and had extensive experience managing international collaborative projects.

B. Equipment

No equipment over \$5,000 will be purchased.

C. Travel

We are requesting \$4,314 per year for all years for Dr. Shi to travel to the United States to meet with EcoHealth Alliance (Daszak, Francesco, Olival, Ross) and University of North Carolina at Chapel Hill (Baric, Sims) collaborators. Travel is calculated at one round trip airfare from Wuhan to New York City (\$1,000), nine-night hotel in New York City (\$288 per night), and 10 days per diem at \$76 per day except for first and last day, which have a reduced per diem of \$57.

D. Other Direct Costs

We are requesting support for laboratory experiments and related testing costs with a minimum base of 2,000 samples from 1,000 animals per year.

RNA Extractions

We will be running RNA Extractions for 1,000 bats per year (two samples per bat: rectal and blood) in each year of the project. This will cost \$6,214 per year (QIAamp ViralRNA Mini Kit with Axygen Pipette Tips and Filter Tubes at \$3.11 per sample).

RT-PCR

Costs for 1-Step RT-PCR assays for Coronavirus conducted on 2,000 samples per year for each year of the project total \$6,358 and are detailed as follows: Superscript III one step kit (\$2.31 per sample); Platinum Tag DNA Polymerase (\$0.25 per sample); nuclease-free water (\$0.07 per sample); and Axygen Pipette Tips and Filter Tubes (\$0.54 per sample).

DNA Sequencing

In each year of the project, DNA Sequencing will be performed on 1,500 samples at a cost of \$4.34 per reaction. We request a total of \$6,503 per year in each year.

In vitro Infection Experiment

We are requesting support for *in vitro* infection experiments using pseudoviruses carrying the spike proteins (wild type or mutants) or live viruses in cell lines of different origins, binding affinity assays between the spike proteins (wild type or mutants) and different cellular receptor molecules, and humanized mouse experiments. In each year of the project, we request \$1,040 for Lipofectamine3000 transfection reagent; \$3,612 for GIBCO Fetal Bovine Serum, \$517 for GIBCO antibiotic antimycotic, and 2,601 for GIBCO medium that will be used in the *in vitro* infection experiments that will be used for *in vitro* infection experiment, as well as \$6,000 for cell lines, in total of \$8,639 per year.

Luciferase Immunoprecipitation System (LIPS) Assay

We are requesting \$18,642 to support the in each year of the project to develop LIPS assay for bat CoV antibody detection, with detailed cost as follows: \$9,827 for Protein A/G UltraLink Resin; \$434 for Monoclonal ANTI-FLAG(R) M2 antibody; \$5,636 for Renilla Luciferase Assay System; \$2,168 for Merck-Millipore MSBVN1B50 MultiScreen HTS; \$578 for Axygen Polypropylene PCR Tube Strips.

The Enzyme-Linked Immunosorbent Assay (ELISA)

We also request \$2,312 to support the serological testing of 1,000 bat serum samples per year with ELISA plates, at the cost of \$2.31 per sample.

E. Indirect Costs

We are requesting an extremely low indirect cost of 8% on all direct costs.

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		88,335.00
Section B, Other Personnel		0.00
Total Number Other Personnel	0	
Total Salary, Wages and Fringe Benefits (A+B)		88,335.00
Section C, Equipment		0.00
Section D, Travel		21,570.00
1. Domestic	0.00	
2. Foreign	21,570.00	
Section E, Participant/Trainee Support Costs		0.00
1. Tuition/Fees/Health Insurance	0.00	
2. Stipends	0.00	
3. Travel	0.00	
4. Subsistence	0.00	
5. Other	0.00	
6. Number of Participants/Trainees	0	
Section F, Other Direct Costs		243,340.00
1. Materials and Supplies	243,340.00	
2. Publication Costs	0.00	
3. Consultant Services	0.00	
4. ADP/Computer Services	0.00	
5. Subawards/Consortium/Contractual Costs	0.00	
6. Equipment or Facility Rental/User Fees	0.00	
7. Alterations and Renovations	0.00	
8. Other 1	0.00	
9. Other 2	0.00	
10. Other 3	0.00	
Section G, Direct Costs (A thru F)		353,245.00
Section H, Indirect Costs		28,260.00
Section I, Total Direct and Indirect Costs (G + H)		381,505.00
Section J, Fee		0.00
Section K, Total Costs and Fee (I + J)		381,505.00

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Institute of Pathogen Biology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Lili		Ren		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Li		Guo		Co-Investigator							(b) (4), (b) (6)
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs
	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2019

End Date*: 05-31-2020

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,686.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,686.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,000.00	5,600.00
Total Indirect Costs			5,600.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	75,600.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	75,600.00

L. Budget Justification*
File Name: NIAID_COV_2019_IPB_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Institute of Pathogen Biology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

A. Senior/Key Person												
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Lili		Ren		Co-Investigator							(b) (4), (b) (6)
2 . Dr.	Li		Guo		Co-Investigator							(b) (4), (b) (6)
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons: File Name:											Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs
	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2020

End Date*: 05-31-2021

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,686.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,686.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,000.00	5,600.00
Total Indirect Costs			5,600.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	75,600.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	75,600.00

L. Budget Justification*
File Name: NIAID_COV_2019_IPB_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Institute of Pathogen Biology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 .	Dr.	Lili	Ren		Co-Investigator							(b) (4), (b) (6)	
2 .	Dr.	Li	Guo		Co-Investigator							(b) (4), (b) (6)	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:											File Name:	Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	0.00
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2021

End Date*: 05-31-2022

Budget Period: 3

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,686.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,686.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,000.00	5,600.00
Total Indirect Costs			5,600.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	75,600.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	75,600.00

L. Budget Justification*
File Name: NIAID_COV_2019_IPB_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Institute of Pathogen Biology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Lili		Ren		Co-Investigator							(b) (4), (b) (6)	
2 . Dr.	Li		Guo		Co-Investigator							(b) (4), (b) (6)	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:											File Name:	Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs
	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2022

End Date*: 05-31-2023

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,686.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,686.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,000.00	5,600.00
Total Indirect Costs			5,600.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	75,600.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	75,600.00

L. Budget Justification*
File Name: NIAID_COV_2019_IPB_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Enter name of Organization: Institute of Pathogen Biology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Lili		Ren		Co-Investigator							(b) (4), (b) (6)	
2 . Dr.	Li		Guo		Co-Investigator							(b) (4), (b) (6)	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:											File Name:	Total Senior/Key Person	(b) (4), (b) (6)

B. Other Personnel							
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel					Total Other Personnel	0.00
						Total Salary, Wages and Fringe Benefits (A+B)	(b) (4), (b) (6)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

C. Equipment Description	Funds Requested (\$)*
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	
Total funds requested for all equipment listed in the attached file	
Total Equipment	0.00
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	
2. Foreign Travel Costs	4,314.00
Total Travel Cost	4,314.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	0.00
Total Participant Trainee Support Costs	0.00

RESEARCH & RELATED Budget (C-E) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 5281563570000

Budget Type*: Project Subaward/Consortium

Organization: Institute of Pathogen Biology

Start Date*: 06-01-2023

End Date*: 05-31-2024

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	48,686.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Total Other Direct Costs	48,686.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	70,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1. Direct Costs	8.0	70,000.00	5,600.00
Total Indirect Costs			5,600.00
Cognizant Federal Agency			
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	75,600.00

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	75,600.00

L. Budget Justification*
File Name: NIAID_COV_2019_IPB_BUDGET_JUSTIFICATION.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)