

SUMMARY OF PROPOSED COSTS

Wuhan Institute of Virology (WIV)
 DARPA-BAA-HR001118S0017

	PHASE 1		PHASE 2		PROJECT TOTAL
	BASE 1	BASE 2	OPTION 1	OPTION 2	
	12/1/2018 Through 11/30/2019	12/1/2019 Through 11/30/2020	12/1/2020 Through 11/30/2021	12/1/2021 Through 5/31/2022	
Direct Labor - Senior and Key Personnel	37,975	37,975	37,975	22,153	136,078
Direct Labor - Other Personnel	37,027	40,824	40,824	18,987	137,662
Fringe Benefits	22,500	23,639	23,639	12,341	82,119
Total Direct Labor & Fringe Benefits	97,502	102,438	102,438	53,481	355,859
Materials and Supplies	167,661	198,167	210,687	66,597	643,113
Travel	16,739	7,282	15,523	8,027	47,571
Equipment	0	0	0	0	0
Other Direct Costs	8,200	6,200	6,200	8,200	28,800
Total Other Direct Costs	192,600	211,649	232,410	82,824	719,484
Subtotal: Direct Labor, Fringe, Overhead & Other Direct Co	290,102	314,087	334,848	136,305	1,075,343
Exclusion(s) From Base For F&A	0	0	0	0	0
Adjusted Base for F&A	290,102.25	314,087.15	334,848.25	136,305.25	1,075,342.90
F&A	10.0% 29,010.00	10.0% 31,409.00	10.0% 33,485.00	10.0% 13,631.00	10.0% 107,535.00
Total Proposed Cost	319,112.25	345,496.15	368,333.25	149,936.25	1,182,877.90

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SUMMARY COST BUILDUP BY PHASE			
	Phase I:	Phase II:	All Phases
	24 MONTHS	18 MONTHS	42 MONTHS
	12/1/18 - 11/30/20	12/1/20 - 05/30/22	12/1/18 - 5/30/22
Personnel	\$ 153,801	\$ 119,939	\$ 273,740
Fringe Benefits	\$ 46,139	\$ 35,980	\$ 82,119
Supplies	\$ 365,828	\$ 277,285	\$ 643,113
Travel	\$ 24,021	\$ 23,550	\$ 47,571
Other Direct Costs	\$ 14,400	\$ 14,400	\$ 28,800
Indirect Costs	\$ 60,419	\$ 47,116	\$ 107,535
TOTAL	\$ 664,608	\$ 518,270	\$ 1,182,878

SUMMARY COST BUILDUP BY YEAR					
	Year 1	Year 2	Year 3	Year 4	TOTAL PROJECT
Personnel	\$ 75,002	\$ 78,799	\$ 78,799	\$ 41,140	\$ 273,740
Fringe Benefits	\$ 22,500	\$ 23,639	\$ 23,639	\$ 12,341	\$ 82,119
Supplies	\$ 167,661	\$ 198,167	\$ 210,687	\$ 66,597	\$ 643,113
Travel	\$ 16,739	\$ 7,282	\$ 15,523	\$ 8,027	\$ 47,571
Other Direct Costs	\$ 8,200	\$ 6,200	\$ 6,200	\$ 8,200	\$ 28,800
Indirect Costs	\$ 29,010	\$ 31,409	\$ 33,485	\$ 13,631	\$ 107,535
TOTAL	\$ 319,112	\$ 345,496	\$ 368,333	\$ 149,936	\$ 1,182,878

WIV		Wuhan Institute of Virology - TRAVEL BREAKDOWN							
DARPA BAA-HR00118S0017		Trip #:	1	Y1	Location: Arlington, VA		Contract Period		
		Purpose: DARPA Kickoff Meeting (Shi +1 key personnel)						Base 1	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
4	2	\$2,018.00	\$69.00	\$250.00	\$212.00	\$6,800.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$112.00							
Transportation to/from Arlington airport		\$100.00							
Total:		\$212.00							
		Trip #:	2	Y1	Location: New York, NY		Contract Period		
		Purpose: Annual Meeting (Shi +2 key personnel)						Base 1	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
6	3	\$949.00	\$74.00	\$291.00	\$522.00	\$9,939.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$168.00							
Transportation to/from NYC airport		\$354.00							
Total:		\$522.00							
		Trip #:	3	Y3.5	Location: Salt Lake City, UT		Contract Period		
		Purpose: Ecological Society of America Conference (Baric + key personnel)						Base 2	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
4	2	\$2,811.00	\$59.00	\$124.00	\$196.00	\$7,282.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$112.00							
Transportation to/from SLC airport		\$4							
Total:		\$196.00							
		Trip #:	4	Y3	Location: New York, NY		Contract Period		
		Purpose: Annual Meeting in NYC (Shi +2 key personnel)						Option 1	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
4	3	\$949.00	\$74.00	\$291.00	\$168.00	\$7,395.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$168.00							
Transportation to/from NYC airport		\$354.00							
Total:		\$168.00							
		Trip #:	5	Y2	Location: Atlanta, GA		Contract Period		
		Purpose: International Conference on Emerging Infectious Diseases (Shi +1 key personnel)						Option 1	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
4	2	\$3,084.00	\$69.00	\$148.00	\$224.00	\$8,128.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$112.00							
Transportation to/from Georgia airport		\$112.00							
Total:		\$224.00							
		Trip #:	6	Y3.5	Location: New York, NY		Contract Period		
		Purpose: Annual Meeting (Baric +2 key personnel)						Option 2	
Days	# of People	Airfare	Per Diem	Lodging	Other	Total			
5	1	\$949.00	\$74.00	\$291.00	\$174.00	\$2,348.00			
4	2	\$949.00	\$74.00	\$291.00	\$261.00	\$5,079.00			
<i>Itemized Expenses for "Other"</i>									
Description		Amount							
Transportation to/from Wuhan airport		\$168.00							
Transportation to/from NYC airport		\$354.00							
Total:		\$522.00							

NOTE: Dr. SHI WILL STAY AN ADDITIONAL DAY FOR PROJECT CLOSEOUT

Total Travel	\$47,571.00
Base 1	\$16,738.00
Base 2	\$7,282.00
Option 1	\$15,523.00
Option 2	\$8,027.00

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Wuhan Institute of Virology - SUPPLIES & EQUIPMENT BREAKDOWN

PROJECT OR USE	Item	Manufacturer / Vendor	Part Number / Description	Unit Price	Quantity	# Years Purchased	Total Cost	Contract Period / Task	Additional Item Information	Basis of Estimate
	RNA extraction, CoV PCR test and SARS-CoV quantitation						\$194,892.00			
1	QIAamp-Viral RNA Minikit	Qiagen	50 times	\$472	62	3	\$27,292.00	BASE 1 / BASE 2 / OPTION 1	http://www000188.easman.com.cn/detail.aspx?product_id=13529317 (see att1)	
2	Superscript III one-step RT	Invitrogen	100 rxn	\$1,133	20	3	\$67,980.00	BASE 1 / BASE 2 / OPTION 1	http://www0004965.easman.com.cn/detail.aspx?product_id=105236163 (see att2)	
3	PlatinumTaq DNA Polymerase	Invitrogen	600 rxn	\$586	6	3	\$10,734.00	BASE 1 / BASE 2 / OPTION 1	http://www000577.easman.com.cn/detail.aspx?product_id=25702470 (see att3)	
4	Gel purification kit	Omega	1000 times	\$554	2	3	\$1,124.00	BASE 1 / BASE 2 / OPTION 1	http://www0001282.easman.com.cn/detail.aspx?product_id=45740260 (see att4)	
5	pGEM-T Easy Vector System I	Promega	20 rxn	\$86	28	3	\$6,450.00	BASE 1 / BASE 2 / OPTION 1	http://www0000860.easman.com.cn/detail.aspx?product_id=108591489 (see att5)	
6	T4 DNAase	NEB	10000 units (100 times)	\$407	5	3	\$6,105.00	BASE 1 / BASE 2 / OPTION 1	http://www0000129.easman.com.cn/detail.aspx?product_id=14068465 (see att6)	
7	nuclease-free water	Life Technologies	500ml	\$194	2	3	\$1,164.00	BASE 1 / BASE 2 / OPTION 1	http://www0000777.easman.com.cn/detail.aspx?product_id=301735438 (see att7)	
8	TaqMan AgPath-ID One-Step RT-PCR kit	Applied Biosystem	100 rxn	\$291	7	3	\$6,111.00	BASE 1 / BASE 2 / OPTION 1	http://www0000577.easman.com.cn/detail.aspx?product_id=26573687 (see att8)	
9	Pipette tips (20ul)	QSP	96 tips/plate, 30 plate/box	\$337	2	3	\$1,472.00	BASE 1 / BASE 2 / OPTION 1	http://www0000577.easman.com.cn/detail.aspx?product_id=119845115 (see att9)	
10	Pipette tips (100-300ul)	QSP	96 tips/plate, 30 plate/box	\$405	2	3	\$1,472.00	BASE 1 / BASE 2 / OPTION 1	http://www0000577.easman.com.cn/detail.aspx?product_id=119845115 (see att9)	
11	PCR tubes	Axygen	1000	\$12	10	3	\$90.00	BASE 1 / BASE 2 / OPTION 1	http://www0001917.easman.com.cn/detail.aspx?product_id=900818793 (see att11)	
12	EP tubes	Axygen	500	\$12	10	3	\$360.00	BASE 1 / BASE 2 / OPTION 1	http://www0000063.easman.com.cn/detail.aspx?product_id=14376635 (see att12)	
	Gene synthesis and sequencing						\$238,198.00			
13	Primer synthesis	Sangon	\$0.3	10600	3	\$9,348.00	BASE 1 / BASE 2 / OPTION 1	http://www.sangon.com/analysis_data_synthesis_gene_synthesis.html (see att13)		
14	Conventional DNA sequencing	Sangon	\$4.1	5000	3	\$1,500.00	BASE 1 / BASE 2 / OPTION 1	http://www.sangon.com/service_data_sequencing_index.html (see att14)		
15	Taqman probe for qPCR	Sangon	\$158	2	3	\$948.00	BASE 1 / BASE 2 / OPTION 1	http://www.sangon.com/service_data_price.html#total (see att15)		
16	Next-generation sequencing for full-length genome	Novogene	\$554	100	3	\$166,200.00	BASE 1 / BASE 2 / OPTION 1	see att15		
	Cell culture						\$77,095.00			
17	Cell culture medium	GIBCO	500ml	\$79	100	3.5	\$27,650.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0004965.easman.com.cn/detail.aspx?product_id=105826778 (see att17)	
18	Fetal bovine serum	GIBCO	900ml	\$1,043	10	3.5	\$36,505.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0002149.easman.com.cn/detail.aspx?product_id=62863218 (see att18)	
19	Penicillin-Streptomycin	Thermo Fisher	100ml	\$48	10	3.5	\$1,830.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0000941.easman.com.cn/detail.aspx?product_id=42292088 (att19)	
20	Cell culture plates	Corning	1 piece	\$1.7	600	3.5	\$1,570.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0001493.easman.com.cn/detail.aspx?product_id=11044228 (att20)	
21	Cell culture flask 25ml	Corning	20 pieces	\$17	40	3.5	\$2,352.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0001493.easman.com.cn/detail.aspx?product_id=11044228 (att20)	
22	Cell culture flask 225ml	Corning	5 pieces	\$23	16	3.5	\$1,288.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	http://www0001493.easman.com.cn/detail.aspx?product_id=11044228 (att20)	
23	Cell lines	ATCC	5 pieces	\$396	5	2	\$3,960.00	BASE 1 / BASE 2	http://www.biofeng.com/ATCC/Cellular-Cult-3.html / http://www.biofeng.com/ATCC/Cellular-Cult-3.html (see att23, att24)	
	UPS-related materials and supplies						\$81,096.00			
24	Ureafactorial 3000	Life	15ml	\$455	3	3	\$7,695.00	BASE 2 / OPTION 1 / OPTION 2	http://www0000877.easman.com.cn/detail.aspx?product_id=44183221 (see att25)	
25	FREESTYLE 299 EXPRESSION MEDIUM	GIBCO	1000ml	\$224	3	3	\$1,016.00	BASE 2 / OPTION 1 / OPTION 2	http://www0004965.easman.com.cn/detail.aspx?product_id=108034977 (see att26)	
26	Protein A/G UltraLink Resin	Thermo	2ml	\$692	22	3	\$45,672.00	BASE 2 / OPTION 1 / OPTION 2	http://www0000700.easman.com.cn/detail.aspx?product_id=62266527 (see att27)	
27	Monoclonal ANTI-FLAG(H) M2 antibody	Sigma	500ug	\$136	3	3	\$1,224.00	BASE 2 / OPTION 1 / OPTION 2	http://www0000810.easman.com.cn/detail.aspx?product_id=39905711 (see att28)	
28	Renilla Luciferase Assay System	Promega	1000 times	\$874	6	3	\$15,732.00	BASE 2 / OPTION 1 / OPTION 2	http://www0000129.easman.com.cn/detail.aspx?product_id=122845363 (see att29)	
29	Merck Millipore MSBM1850 Multidiscs HTS BV Durapore	Merck-Millipore	50 pieces/box	\$1,073	3	3	\$9,657.00	BASE 2 / OPTION 1 / OPTION 2	http://www0000050.easman.com.cn/detail.aspx?product_id=22320180 (see att30)	
	Humanized mice						\$70,549.00			
30	Human ACE2-expressing transgenic mice			\$1,027	10	2	\$20,540.00	OPTION 1 / OPTION 2	see att31 & att32	
OTHER DIRECT COSTS BREAKDOWN										
	Publication Fees						\$11,250.00			
31	Page charge			\$2,250	1	1	\$2,250.00	BASE 2	see att33	
32	Page charge			\$2,250	2	2	\$9,000.00	OPTION 1 / OPTION 2	see att33	
33										
	Equipment or Facility Rental/User Fees						\$17,280.00			
	Center for Instrumental Analysis and Metrology - WV									
34	Ultracentrifuge			\$19	100	4	\$7,600.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	see att34	
35	Confocal microscope			\$28	50	4	\$5,600.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	see att34	
36	Electronic microscope sample preparation			\$17	60	4	\$4,080.00	BASE 1 / BASE 2 / OPTION 1 / OPTION 2	see att34	
	Shipping						\$2,772.00			
37	Isolated viruses to Singapore			\$180	2	3	\$1,080.00	BASE 2 / OPTION 1 / OPTION 2	see att35	
38	Isolated viruses to US			\$282	2	3	\$1,692.00	BASE 2 / OPTION 1 / OPTION 2	see att36	
	TOTAL						\$643,113.00			

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Wuhan Institute of Virology - SUMMARY COST BUILDUP BY MONTH

PHASE ONE						PHASE TWO					
Base 1 Total Projected Expenditures by Month			Base 2 Total Projected Expenditures by Month			Option 1 Total Projected Expenditures by Month			Option 2 Total Projected Expenditures by Month		
Calendar Month/Yr	Contract Month	Projected Monthly Budget	Calendar Month/Yr	Contract Month	Projected Monthly Budget	Calendar Month/Yr	Contract Month	Projected Monthly Budget	Calendar Month/Yr	Contract Month	Projected Monthly Budget
Dec-18	Month 1	\$26,593	Dec-19	Month 1	\$28,791	Dec-20	Month 1	\$30,694	Dec-21	Month 1	\$24,989
Jan-19	Month 2	\$26,593	Jan-20	Month 2	\$28,791	Jan-21	Month 2	\$30,694	Jan-22	Month 2	\$24,989
Feb-19	Month 3	\$26,593	Feb-20	Month 3	\$28,791	Feb-21	Month 3	\$30,694	Feb-22	Month 3	\$24,989
Mar-19	Month 4	\$26,593	Mar-20	Month 4	\$28,791	Mar-21	Month 4	\$30,694	Mar-22	Month 4	\$24,989
Apr-19	Month 5	\$26,593	Apr-20	Month 5	\$28,791	Apr-21	Month 5	\$30,694	Apr-22	Month 5	\$24,989
May-19	Month 6	\$26,593	May-20	Month 6	\$28,791	May-21	Month 6	\$30,694	May-22	Month 6	\$24,989
Jun-19	Month 7	\$26,593	Jun-20	Month 7	\$28,791	Jun-21	Month 7	\$30,694			
Jul-19	Month 8	\$26,593	Jul-20	Month 8	\$28,791	Jul-21	Month 8	\$30,694			
Aug-19	Month 9	\$26,593	Aug-20	Month 9	\$28,791	Aug-21	Month 9	\$30,694			
Sep-19	Month 10	\$26,593	Sep-20	Month 10	\$28,791	Sep-21	Month 10	\$30,694			
Oct-19	Month 11	\$26,593	Oct-20	Month 11	\$28,791	Oct-21	Month 11	\$30,694			
Nov-19	Month 12	\$26,593	Nov-20	Month 12	\$28,791	Nov-21	Month 12	\$30,694			
Total Annual Budget for Base 1		\$319,112	Total Annual Budget for Base 2		\$345,496	Total Annual Budget for Option 1		\$368,333	Total Annual Budget for Option 2		\$149,936

PROJECT
\$1,182,878

*All monthly calculations are approximate and subject to change.

Wuhan Institute of Virology DARPA-BAA-HR001118S0017	DIRECT LABOR BREAKDOWN							
	PHASE ONE - BASE PERIOD (24 months)							
	BASE 1			Total Salary Amount Y1	BASE 2			Total Salary Amount Y2
Personnel	Hourly Rate	# Months	# Hours		Hourly Rate	# Months	# Hours	
Investigator)	\$25.56	3.00	528	\$13,496	\$25.56	3.00	528	\$13,496
Dr. Peng Zhou (Senior Dr. Ben Hu (Research Fellow)	\$18.26	6.00	1056	\$19,280	\$18.26	6.00	1056	\$19,280
	\$10.95	3.00	528	\$5,784	\$10.95	3.00	528	\$5,784
Associate Professor	\$13.69	6.00	1056	\$14,460	\$13.69	6.00	1056	\$14,460
Senior Technician	\$10.95	6.00	1056	\$11,568	\$10.95	6.00	1056	\$11,568
Technician 1	\$7.30	9.00	1584	\$11,569	\$7.30	6.00	1056	\$7,712
Technician 2					\$7.30	6.00	1056	\$7,712
TOTAL DIRECT LABOR				\$76,156				\$80,012
		Rate	Base Amount	Total Fringe Y1		Rate	Base Amount	Total Fringe Y2
FRINGE BENEFITS (Fringe)		30.00%	\$76,156.13	\$22,846.84		30.00%	\$80,012.31	\$24,003.69
				\$99,002.97				\$104,016.00

Total Labor	summary	e
\$358,179.69	355,859	#####

	PHASE TWO - OPTION PERIOD (18 months)							
	OPTION 1			Total Salary Amount Y3	OPTION 2			Total Salary Amount Y3.5
	Personnel	Hourly Rate	# Months		# Hours	Hourly Rate	# Months	
Dr. Zhengli Shi (Co- Investigator)	\$25.56	3.00	528	\$13,496	\$25.56	2.00	352	\$8,997
Dr. Peng Zhou (Senior Scientist)	\$18.26	6.00	1056	\$19,283	\$18.26	3.00	528	\$9,641
Dr. Ben Hu (Research Fellow)	\$10.95	3.00	528	\$5,782	\$10.95	2.00	352	\$3,854
Associate Professor	\$13.69	6.00	1056	\$14,457	\$13.69	3.00	528	\$7,228
Senior Technician	\$10.95	6.00	1056	\$11,563	\$10.95	3.00	528	\$5,782
Technician 1	\$7.30	6.00	1056	\$7,709	\$7.30	3.00	528	\$3,854
Technician 2	\$7.30	6.00	1056	\$7,709		3.00	528	\$0
TOTAL DIRECT LABOR				\$79,997				\$39,357
		Rate	Base Amount	Total Fringe Y3		Rate	Base Amount	Total Fringe Y3.5
FRINGE BENEFITS		30.00%	\$79,997.28	\$23,999.18		30.00%	\$39,357.12	\$11,807.14
TOTAL LABOR (Salary + Fringe)				\$103,996.46				\$51,164.26