

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD* ORGANIZATIONAL DUNS: * Budget Type: Project Subaward/ConsortiumEnter name of Organization: * Start Date: * End Date: Budget Period 4**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

	Equipment item	* Funds Requested (\$)
1.	<input type="text"/>	<input type="text"/>
2.	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>
5.	<input type="text"/>	<input type="text"/>
6.	<input type="text"/>	<input type="text"/>
7.	<input type="text"/>	<input type="text"/>
8.	<input type="text"/>	<input type="text"/>
9.	<input type="text"/>	<input type="text"/>
10.	<input type="text"/>	<input type="text"/>
11.	Total funds requested for all equipment listed in the attached file	<input type="text"/>
	Total Equipment	<input type="text"/>

Additional Equipment: **D. Travel****Funds Requested (\$)**

1.	Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions)	<input type="text" value="5,000.00"/>
2.	Foreign Travel Costs	<input type="text"/>
	Total Travel Cost	<input type="text" value="5,000.00"/>

E. Participant/Trainee Support Costs**Funds Requested (\$)**

1.	Tuition/Fees/Health Insurance	<input type="text"/>
2.	Stipends	<input type="text"/>
3.	Travel	<input type="text"/>
4.	Subsistence	<input type="text"/>
5.	Other <input type="text"/>	<input type="text"/>
<input type="text"/>	Number of Participants/Trainees	<input type="text"/>
	Total Participant/Trainee Support Costs	<input type="text"/>

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

RESEARCH & RELATED BUDGET - SECTION F-K, BUDGET PERIOD 4

Next Period

* ORGANIZATIONAL DUNS: 0511133300000

* Budget Type: Project Subaward/Consortium

Enter name of Organization: Baylor College of Medicine

Delete Entry

Start Date: 05/01/2015 * End Date: 04/30/2016 Budget Period 4

F. Other Direct Costs

Funds Requested (\$)

1. Materials and Supplies	10,000.00
2. Publication Costs	807.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	123,150.00
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8. Shipping	4,000.00
9. Equipment Maintenance	0.00
10. Fee-for-service: Sabin	575,000.00

Total Other Direct Costs 712,957.00

G. Direct Costs

Funds Requested (\$)

Total Direct Costs (A thru F) 798,150.00

H. Indirect Costs

Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1. BCM-off campus affiliate (TCH) MTDC	57.30	675,000.00	386,775.00
2.			
3.			
4.			

Total Indirect Costs 386,775.00

Cognizant Federal Agency DHHS, Arif Karim, 214-767-3261

(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs

Funds Requested (\$)

Total Direct and Indirect Institutional Costs (G + H) 1,184,925.00

J. Fee

Funds Requested (\$)

K. * Budget Justification 1240-FINAL_Budg_Just.pdf

(Only attach one file.)

Add Attachment

Delete Attachment

View Attachment

Previous Period

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 5

* ORGANIZATIONAL DUNS: 0511133300000

* Budget Type: Project Subaward/Consortium

Enter name of Organization: Baylor College of Medicine

Delete Entry * Start Date: 05/01/2016 * End Date: 04/30/2017 Budget Period 5

A. Senior/Key Person

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Peter	J	Hotez	M.D.	PD/PI	Institutional Base Salary	EFFORT			19,970.00	4,593.00	24,563.00
2.	Maria	Elena	Bottazzi	PhD	PD/PI					19,970.00	4,593.00	24,563.00
3.												
4.												
5.												
6.												
7.												
8.												
9. Total Funds requested for all Senior Key Persons in the attached file												
Total Senior/Key Person											49,126.00	

Additional Senior Key Persons:

Add Attachment

Delete Attachment

View Attachment

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Associate Director for Product Development	EFFORT			13,844.00	4,153.00	17,997.00
1	Research Assistant				6,731.00	2,019.00	8,750.00
2	Total Number Other Personnel						
Total Other Personnel							26,747.00
Total Salary, Wages and Fringe Benefits (A+B)							75,873.00

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 5* ORGANIZATIONAL DUNS: * Budget Type: Project Subaward/ConsortiumEnter name of Organization: * Start Date: * End Date: Budget Period 5**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

	Equipment item	* Funds Requested (\$)
1.	<input type="text"/>	<input type="text"/>
2.	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>
5.	<input type="text"/>	<input type="text"/>
6.	<input type="text"/>	<input type="text"/>
7.	<input type="text"/>	<input type="text"/>
8.	<input type="text"/>	<input type="text"/>
9.	<input type="text"/>	<input type="text"/>
10.	<input type="text"/>	<input type="text"/>
11.	Total funds requested for all equipment listed in the attached file	<input type="text"/>
	Total Equipment	<input type="text"/>

Additional Equipment: **D. Travel****Funds Requested (\$)**

1.	Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions)	<input type="text" value="5,000.00"/>
2.	Foreign Travel Costs	<input type="text"/>
	Total Travel Cost	<input type="text" value="5,000.00"/>

E. Participant/Trainee Support Costs**Funds Requested (\$)**

1.	Tuition/Fees/Health Insurance	<input type="text"/>
2.	Stipends	<input type="text"/>
3.	Travel	<input type="text"/>
4.	Subsistence	<input type="text"/>
5.	Other <input type="text"/>	<input type="text"/>
<input type="text"/>	Number of Participants/Trainees	<input type="text"/>
	Total Participant/Trainee Support Costs	<input type="text"/>

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

RESEARCH & RELATED BUDGET - SECTION F-K, BUDGET PERIOD 5* ORGANIZATIONAL DUNS: * Budget Type: Project Subaward/ConsortiumEnter name of Organization: Start Date: * End Date: Budget Period 5**F. Other Direct Costs****Funds Requested (\$)**

1. Materials and Supplies	<input type="text" value="10,126.00"/>
2. Publication Costs	<input type="text" value="3,000.00"/>
3. Consultant Services	<input type="text"/>
4. ADP/Computer Services	<input type="text"/>
5. Subawards/Consortium/Contractual Costs	<input type="text" value="82,100.00"/>
6. Equipment or Facility Rental/User Fees	<input type="text"/>
7. Alterations and Renovations	<input type="text"/>
8. <input type="text" value="Shipping"/>	<input type="text" value="3,000.00"/>
9. <input type="text" value="Equipment Maintenance"/>	<input type="text" value="3,000.00"/>
10. <input type="text" value="Fee-for-Service: Sabin"/>	<input type="text" value="600,000.00"/>

Total Other Direct Costs **G. Direct Costs****Funds Requested (\$)****Total Direct Costs (A thru F)** **H. Indirect Costs**

	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1.	<input type="text" value="BCM-off campus affiliate (TCH) MTDC"/>	<input type="text" value="57.30"/>	<input type="text" value="699,999.00"/>	<input type="text" value="401,099.00"/>
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Total Indirect Costs **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)** **J. Fee****Funds Requested (\$)****K. * Budget Justification**

(Only attach one file.)

BUDGET JUSTIFICATION

Baylor College of Medicine

Personnel

Peter J. Hotez, MD, PhD – PD/PI (Effort = [EFFORT] months for years 1-5) has more than 20 years of experience in the development of control tools (i.e vaccines) against neglected tropical diseases. He currently serves as the Director and Principal Scientist of the Vaccine Center at BCM. Dr. Hotez will be responsible for the scientific direction, management and implementation of activities to aim at the final goal of successful and productive running this proposal. Dr. Hotez will encourage and facilitate the timely analysis and submission of data.

Maria Elena Bottazzi, PhD – PD/PI (Effort = [EFFORT] months for years 1-2, [EFFORT] months for year 3 and [EFFORT] months for years 4-5). Dr. Bottazzi has over 11 years of molecular/cellular biology experience and has served for the last 10 years as the Program Director for Product Development of the Vaccine Center. She has ample with expertise in managing complex programs and technical units for the production of recombinant biologics using the bacterial and yeast expression system. She will supervise all operational and programmatic activities of the project, manage timelines and Go/NoGo criteria and decision points in collaboration with Dr Hotez and the PIs from NYBC and UTMB.

Bin Zhan, MD, MS – Co-Investigator (Effort = [EFFORT] months for Year 1) serves as the Director of the Molecular Biology Unit. He will be responsible for all the molecular biology and genetic engineering. With Dr Bottazzi and in collaboration with NYBC, he will coordinate the efforts for the optimization of the cloning into yeast expression system.

Portia Gillespie - Research Scientist for molecular biology (Effort = [EFFORT] months for Year 1 and [EFFORT] months for Year 3) will assist Drs. Zhan, Bottazzi and Hotez in the molecular and feasibility of expression of the recombinant vaccine candidate, screen for expressing clones, prepare a research cell bank of a selected clone, provide initial characterization of secreted proteins and purification of the recombinant proteins. In addition in Year 3 she will be in charge of any stability assays for the research cell bank as well as technology transfer.

Jordan Plieskatt - Associate Director for Product Development (Effort = [EFFORT] months for year 1, [EFFORT] months for Year 2, [EFFORT] months for Year 3, [EFFORT] months for Year 4 and [EFFORT] months for year 5). He will be responsible for organizing the activities for the fermentation, purification processes and the analytical and formulation activities at low and mid scales. With Dr Bottazzi he will coordinate the efforts for the optimization, development and scale-up processes and final process development.

Vehid Deumic, MSc. - Director, Process Development (Effort = [EFFORT] months for year 1, [EFFORT] months for Year 2, [EFFORT] months for Year 3, and [EFFORT] months for Year 4). Mr. Deumic will lead and manage a team involved in research and upstream and downstream process development. These activities include performing design of experiments to improve the production process of the SARS vaccine candidate.

Jill Brelsford – Research Scientist for upstream development (Effort = [EFFORT] months for year 2; [EFFORT] months for year 3) will be responsible for the daily operational and technical work for the fermentation or upstream development activities.

Clifford Kwittin– Research Scientist for downstream development (Effort = [EFFORT] months for year 2; [EFFORT] months for year 3) will be responsible for the daily operational and technical work for the downstream process development and purification activities.

Wanderson Rezende – Research Assistant for biochemical/biophysical and formulation characterization (Effort = [EFFORT] months for Years 1-3 and [EFFORT] months for years 4-5). Mr

Rezende has extensive experience in analytical and biophysical assay development for recombinant vaccines. In addition he will handle the daily activities for formulation development and will work with Dr Bottazzi and Jordan Plieskatt to perform the assays and quality control testing of in processes, release and stability.

Fringe Benefits. Baylor Pediatrics calculates fringe benefits at an average rate of 23% for faculty and 30% for staff.

Equipment

A total of \$298,503 (year 1 only) is requested for equipment as specified below:

Floor model refrigerated incubated shaker. Lab Companion (\$9600) Floor model shaker for expanded temperature range of flask cultures. Would allow for the setting of various temperatures and enhanced throughput of the molecular biology strain screening.

Sample application pump, Air Sensor and Buffer Selection kit for Akta Purifier. GE (\$13,025) Allow for the loading of large volumes of samples on the Akta 10 increasing throughput and expanding sample application volume range. Air sensor upgrade for Akta 10, allowing for more automated processes and risk management. Buffer Selection kit allowing for expanded automated buffer screening.

Circular Dichroism Chiral Detector w/software. Jasco (\$ 31,158) Detector that can be used on or offline Liquid chromatography methods to measure CD signal of samples including structural and conformational analysis of molecules and candidates during development

Mobius with DLS (Zeta potential instrument with dynamic light scattering module) Wyatt (\$ 62, 475) Can measure physical and chemical properties of proteins by electrostatic mobility. Allows for accessing of three parameters simultaneously at a wide range of molecular weight and pI

Acquity Fluorescence Detector Waters (\$ 14,832) Online fluorescence detector the Acquity H class UPLC, expanding the range of assays and detector capabilities with method development

Parallel Bioreactor System DAS GIP Technology (\$ 140,000) Using DASGIP Parallel Bioreactor Systems scientists benefit from an advanced bioreactor technology gaining superior results in strain characterization, process development and gene expression. DASGIP systems combine the conveniences of simple systems such as shaking flasks with benefits of large-scale bioreactors: Small working volumes allow high experimental throughput with minimal input. Precision and comprehensive process control result in highly scalable and reproducible output. Users working with E. coli, Pichia pastoris, yeast and fungi have experienced the DASGIP system as customized and highly efficient biological processing tool.

Biochemistry Analyzers YSI Life Sciences (\$ 13,818) The YSI 2700 SELECT Biochemistry Analyzer provides vital information about processes. It provides rapid, accurate analysis of key nutrients and byproducts, including: Glucose, Lactate, Glutamine, Glutamate, Ethanol, Lactose, Sucrose, Galactose, Hydrogen peroxide, Methanol, Starch, Choline, Xylose

Spectrophotometer GE (\$ 8,513) Provide an updated spectrophotometer dedicated to process development activities.

Akta Explorer High Flow Kit GE (\$ 5,082) The ÄKTA™ High Flow kit (no. 18-1154-85) is intended for use in ÄKTA explorer 100 systems. The kit contains the necessary components and software for reducing the back-pressure in the system and thereby allowing higher flow rates. This makes it possible to use the system for larger columns and by that increasing the production capacity.

Materials and Lab Supplies

Materials and supplies requested of \$217,242 for 5 years include those necessary for molecular biology, protein expression and purification, analytical and biochemical analysis such as media, chemicals, resins, buffers, and glassware and pipettes, plastics and disposables. Supplies include reagents such as media,

chemicals, resins, antibodies, buffers, LAL kits, purification columns membranes and glassware and pipettes, plastics and disposables in order to perform the scale up production.

Travel. We request a total of \$ 60,000 for a period of five years for travel for the PIs and senior scientists to travel to a scientific meeting in order to present findings at national conferences. In addition, visits to discuss the project with NYBC and UTMB can be coordinated.

Publications/slides/posters We request a total of \$10,807 for publications and any other needs for presentations during meetings and conferences

Shipping. We request a total of \$22,000 for the period of five years to cover shipment of biologics, other samples and related costs.

Equipment Maintenance: \$31,000 is requested for years 1-5 for maintaining equipments used for this grant.

Fee-for-service contractor: The fee-for-service contract with **Sabin Vaccine Institute** will be distributed as follows: Year 3: \$75,000; Year 4: \$575,000 and Year 5: \$600,000; a total of \$1,250,000 for yrs 3-5. More information is provided under the “Contractual Arrangements” section.

Sub-awards: New York Blood Center and University of Texas Medical Branch.

The allocations for these sub-awards are as follows:

Organization	Direct Costs per year				
	Year 1	Year 2	Year 3	Year 4	Year 5
NYBC	\$275,000	\$ 300,000	\$ 175,000	\$ 75,000	\$ 50,000
UTMB	\$125,000	\$ 200,000	\$ 150,000	\$ 0	\$ 0

Separate budget justification for each sub-award is provided as an attachment to their own budget. Further information is provided under the “Contractual Arrangements” section.

Facilities and Administrative Costs (Indirect Costs). Indirect costs are calculated using the off-campus Baylor rate of 27.1% combined with the Texas Children’s Hospital affiliated rate of 30.2% for a combination rate of 57.3% for work performed at Texas Children’s Hospital. Indirect costs are also being taken on the first \$25,000 of each subcontract utilizing the Baylor on-campus rate of 56.5% per the DHHS rate agreement.

RESEARCH & RELATED BUDGET - Cumulative Budget

		Totals (\$)
Section A, Senior/Key Person		322,451.00
Section B, Other Personnel		486,498.00
Total Number Other Personnel	20	
Total Salary, Wages and Fringe Benefits (A+B)		808,949.00
Section C, Equipment		298,503.00
Section D, Travel		60,000.00
1. Domestic	60,000.00	
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		3,694,549.00
1. Materials and Supplies	217,242.00	
2. Publication Costs	10,807.00	
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs	2,163,500.00	
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Other 1	22,000.00	
9. Other 2	31,000.00	
10. Other 3	1,250,000.00	
Section G, Direct Costs (A thru F)		4,862,001.00
Section H, Indirect Costs		1,403,448.00
Section I, Total Direct and Indirect Costs (G + H)		6,265,449.00
Section J, Fee		

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Shibo	Jiang	MD	PD/PI	Institutional Base Salary	EFFORT			48,104.00	15,874.00	63,978.00
2.	Dr.	Sara	Lustigman	PhD	Co-investigator					17,293.00	5,706.00	22,999.00
3.	Dr.	Lanying	Du	PhD	Co-investigator					18,865.00	6,225.00	25,090.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:			File Name:	Mime Type:			Total Senior/Key Person			112,067.00		

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Assistant	EFFORT			18,791.00	6,201.00	24,992.00
1	Research Fellow				38,000.00	12,540.00	50,540.00
2	Total Number Other Personnel				Total Other Personnel		75,532.00
Total Salary, Wages and Fringe Benefits (A+B)							187,599.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

8,000.00

2. Foreign Travel Costs

Total Travel Cost

8,000.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	51,000.00
2. Publication Costs	1,000.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	5,000.00
7. Alterations and Renovations	
8. Animal Purchase & Maintenance	20,000.00
9. Miscellaneous	2,401.00
Total Other Direct Costs	79,401.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	275,000.00

H. Indirect Costs				
	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1.	MTDC	64.20	275,000.00	176,550.00
Total Indirect Costs				176,550.00
Cognizant Federal Agency		DHHS, Jeffrey Warren, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	451,550.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name: 1247-Budget justification	Mime Type: application/pdf
	NYBC_final.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 2* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2013* **End Date:** 04-30-2014**Budget Period:** 2**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Shibo	Jiang	MD	PD/PI	Institutional Base Salary	EFFORT			49,547.00	16,351.00	65,898.00
2.	Dr.	Sara	Lustigman	PhD	Co-investigator					17,811.00	5,878.00	23,689.00
3.	Dr.	Lanying	Du	PhD	Co-investigator					19,430.00	6,412.00	25,842.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:			File Name:	Mime Type:			Total Senior/Key Person			115,429.00		

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Assistant	EFFORT			19,354.00	6,387.00	25,741.00
1	Research Fellow				41,000.00	13,530.00	54,530.00
2	Total Number Other Personnel				Total Other Personnel		80,271.00
Total Salary, Wages and Fringe Benefits (A+B)							195,700.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 2* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium

Enter name of Organization: New York Blood Center

* **Start Date:** 05-01-2013* **End Date:** 04-30-2014**Budget Period:** 2**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

8,000.00

2. Foreign Travel Costs

Total Travel Cost

8,000.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 2* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2013* **End Date:** 04-30-2014**Budget Period:** 2

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	52,000.00
2. Publication Costs	1,000.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	5,000.00
7. Alterations and Renovations	
8. Animal purchase and maintenance	35,000.00
9. Miscellaneous	3,300.00
Total Other Direct Costs	96,300.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	300,000.00

H. Indirect Costs				
	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1. MTDC		64.20	300,000.00	192,600.00
			Total Indirect Costs	192,600.00
Cognizant Federal Agency		DHHS, Jeffrey Warren, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	492,600.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name: 1247-Budget justification	Mime Type: application/pdf
	NYBC_final.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Shibo	Jiang	MD	PD/PI	Institutional Base Salary	EFFORT			29,955.00	9,885.00	39,840.00
2.	Dr.	Sara	Lustigman	PhD	Co-investigator					9,173.00	3,027.00	12,200.00
3.	Dr.	Lanying	Du	PhD	Co-investigator					6,671.00	2,201.00	8,872.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:			File Name:		Mime Type:		Total Senior/Key Person				60,912.00	

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Assistant				19,935.00	6,579.00	26,514.00
1	Research Fellow				22,500.00	7,425.00	29,925.00
2	Total Number Other Personnel				Total Other Personnel		56,439.00
Total Salary, Wages and Fringe Benefits (A+B)							117,351.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium

Enter name of Organization: New York Blood Center

* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

8,000.00

2. Foreign Travel Costs

Total Travel Cost

8,000.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium

Enter name of Organization: New York Blood Center

* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	36,000.00
2. Publication Costs	1,000.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	5,000.00
7. Alterations and Renovations	
8. Animal Purchase and maintenance	5,000.00
9. Miscellaneous	2,649.00
Total Other Direct Costs	49,649.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	175,000.00

H. Indirect Costs				
	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1.	MTDC	64.20	175,000.00	112,350.00
			Total Indirect Costs	112,350.00
Cognizant Federal Agency		DHHS, Jeffrey Warren, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	287,350.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name: 1247-Budget justification	Mime Type: application/pdf
	NYBC_final.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 4* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2015* **End Date:** 04-30-2016**Budget Period:** 4**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Shibo	Jiang	MD	PD/PI	Institutional Base Salary	EFFORT			29,955.00	9,885.00	39,840.00
2.	Dr.	Sara	Lustigman	PhD	Co-investigator					9,448.00	3,118.00	12,566.00
3.	Dr.	Lanying	Du	PhD	Co-investigator					3,435.00	1,134.00	4,569.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:										Total Senior/Key Person		56,975.00

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
0	Total Number Other Personnel						
Total Other Personnel							
Total Salary, Wages and Fringe Benefits (A+B)							56,975.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 4* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2015* **End Date:** 04-30-2016**Budget Period:** 4**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

4,000.00

2. Foreign Travel Costs

Total Travel Cost

4,000.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 4* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2015* **End Date:** 04-30-2016**Budget Period:** 4

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	8,000.00
2. Publication Costs	1,000.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	3,000.00
7. Alterations and Renovations	
8. Miscellaneous	2,025.00
Total Other Direct Costs	14,025.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	75,000.00

H. Indirect Costs				
	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1.	MTDC	64.20	75,000.00	48,150.00
			Total Indirect Costs	48,150.00
Cognizant Federal Agency		DHHS, Jeffrey Warren, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	123,150.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name: 1247-Budget justification	Mime Type: application/pdf
	NYBC_final.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 5* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2016* **End Date:** 04-30-2017**Budget Period:** 5**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Shibo	Jiang	MD	PD/PI	Institutional Base Salary	EFFORT			29,955.00	9,885.00	39,840.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:						File Name:	Mime Type:	Total Senior/Key Person				39,840.00

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)	
	Post Doctoral Associates							
	Graduate Students							
	Undergraduate Students							
	Secretarial/Clerical							
0	Total Number Other Personnel					Total Other Personnel		
						Total Salary, Wages and Fringe Benefits (A+B)		39,840.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 5

* ORGANIZATIONAL DUNS: 0732718270000

* Budget Type: Project Subaward/Consortium

Enter name of Organization: New York Blood Center

* Start Date: 05-01-2016

* End Date: 04-30-2017

Budget Period: 5

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

4,000.00

2. Foreign Travel Costs

Total Travel Cost

4,000.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 5* **ORGANIZATIONAL DUNS:** 0732718270000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** New York Blood Center* **Start Date:** 05-01-2016* **End Date:** 04-30-2017**Budget Period:** 5

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	
2. Publication Costs	1,000.00
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	3,000.00
7. Alterations and Renovations	
8. Miscellaneous	2,160.00
Total Other Direct Costs	6,160.00

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. MTDC		64.20	50,000.00	32,100.00
			Total Indirect Costs	32,100.00
Cognizant Federal Agency		DHHS, Jeffrey Warren, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	82,100.00

J. Fee	Funds Requested (\$)
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K. * Budget Justification	File Name: 1247-Budget justification	Mime Type: application/pdf
	NYBC_final.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		385,223.00
Section B, Other Personnel		212,242.00
Total Number Other Personnel	6	
Total Salary, Wages and Fringe Benefits (A+B)		597,465.00
Section C, Equipment		
Section D, Travel		32,000.00
1. Domestic	32,000.00	
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		245,535.00
1. Materials and Supplies	147,000.00	
2. Publication Costs	5,000.00	
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees	21,000.00	
7. Alterations and Renovations		
8. Other 1	64,185.00	
9. Other 2	8,350.00	
10. Other 3		
Section G, Direct Costs (A thru F)		875,000.00
Section H, Indirect Costs		561,750.00
Section I, Total Direct and Indirect Costs (G + H)		1,436,750.00
Section J, Fee		

BUDGET JUSTIFICATION New York Blood Center**PERSONNEL:**

Shibo Jiang, M.D., Member, PI#2, Head of Viral Immunology Laboratory, Lindsley F. Kimball Research Institute of New York Blood Center [EFFORT] effort or [EFFORT] months for years 1-2 and [EFFOR] effort or [EFFOR] [EFFORT] months for years 3-5), will plan, direct and execute the majority of the studies in Aim 1 in close involvement and discussion with the PI#1, PI#3 and Dr. Sara Lustigman. He will supervise Dr. Lanying Du (Co-investigator) and Dr. Peng Zou (Postdoctoral Research Fellow) and participate in the related experiments, evaluate the experimental results, and the writing of progress reports and papers. He will also be the liaison for the efficacy studies in collaboration with Dr. Chien-Te K. Tseng at the Department of Microbiology and Immunology, University of Texas Medical Branch (UTMB).

Sara Lustigman, Ph.D., Member, Co-Investigator, Head of the Laboratory of Molecular Parasitology, Lindsley F. Kimball Research Institute of New York Blood Center [EFFOR] effort or [EFFORT] months for years 1-2 and [EFFO] effort or [EFFORT] months for years 3-4), has more than 20 years of post-doctoral experience as a molecular biologist and immunoparasitologist, many of which has been on vaccine development against parasites. She will interact with PI#1, PI#2 and PI#3 and provide her expertise to the research team for development of RBD-based SARS vaccine. In addition, she will be the NYBC liaison for all aspects involving the product development of recombinant RBD and adjuvant formulation for optimization. She will oversee the research conducted by her Research Assistant, Nancy Tricoche.

Lanying Du, Ph.D., Assistant Member, Co-Investigator, Viral Immunology Laboratory, Lindsley F. Kimball Research Institute [EFFOR] effort or [EFFORT] months for years 1-2, [EFFO] effort or [EFFORT] months for year 3 and [EFFO] effort [EFFORT] months for year 4), will prepare pseudoviruses expressing S proteins of homologous and heterologous SARS-CoV and testing the neutralizing and cross-neutralizing antibodies. She will also be responsible for immunization of the mice and for optimization of the vaccination regimens. She will report to Dr. Jiang.

Peng Zou, Ph.D., Postdoctoral Research Fellow, Laboratory of Viral Immunology, Lindsley F. Kimball Research Institute [EFFORT] effort or [EFFORT] months for years 1-2 and [EFFOR] effort or [EFFORT] months for year 3), will be responsible for performing ELISA for measuring the antigenicity using RBD-specific and confirmation-dependent mAbs, testing the functionality of rRBD protein using ELISA or ITC for measuring binding of rRBD protein to soluble ACE2 or flow cytometry for detecting the binding of rRBD protein to ACE2-expressing cells, and assessing the immunogenicity of rRBD proteins using ELISA for determining the titers of the RBD-specific antibodies, including IgG1, IgG2a, IgG2b, IgG3 and IgA. He will report to Dr. Jiang.

Nancy Tricoche, Research Assistant III, Laboratory of Molecular Parasitology, Lindsley F. Kimball Research Institute of New York Blood Center [EFFORT] effort or [EFFORT] months for years 1-3), will be responsible for testing the immunogenicity of rRBD protein in regard to all cellular responses including the induction of MHC-H-2d restricted SARS-CoVspecific cytotoxic T lymphocyte response by using ELISPOT and other alternative assays. She will report to Dr. Lustigman.

TRAVEL:

Travel expense (\$8,000 for years 1-3 and \$4,000 for years 4-5) is requested for Drs. Lustigman, Jiang, Du and Zou to attend one scientific conference each year and for Dr. Jiang and/or Dr. Lustigman to travel to an annual meeting in Bethesda, Maryland, or to a relevant scientific meeting, as determined by NIAID Program staff, and one trip to Texas for meeting with the PI#1 and PI#3 and their groups.

OTHER DIRECT COSTS:

MATERIALS & SUPPLIES (total \$147,000: \$51,000 for year 1; \$52,000 for year 2; \$36,000 for year 3; and \$8,000 for year 4)

Tissue culture media (\$34,000): A large amount of cell cultures will be carried out for testing the rRBD-induced immune responses in animal models, including neutralizing and cross-neutralizing antibodies against SARS pseudoviruses, T cell responses and cytotoxic T cell activity. Therefore, about \$9,000, \$12,000, \$8,000 and \$5000 for years 1 to 4, respectively, are requested for purchasing cell culture media and FCS sera.

Plastic and glassware (\$29,000): About \$9,000, \$9,000, \$8000 and \$3000 for years 1 to 4, respectively, are requested for purchasing plastic and glassware, including tissue culture flasks, 96 well plates, disposable tubes, pipettes, tips, etc.

General Lab supplies (\$22,000): About \$6,000, \$8000, \$5000 and \$3000 for years 1 to 4, respectively, are requested for purchasing chemicals, buffers, antibiotics, cryovials, gloves, gowns, and miscellaneous supplies.

Antibodies and antibody conjugates (\$27,000): For testing the antigenicity, functionality, and immunogenicity of rRBD proteins, a number of antibodies and second antibodies will be needed for the ELISA and FACS analysis. About \$7,000, \$10,000, \$6000 and \$4000 for years 1 to 4, respectively, are requested to purchasing the labeled and unlabeled antibodies.

Reagents for preparing SARS pseudovirus and for neutralizing assays (\$35,000): About \$9,000, \$13,000, 9,000 and \$4000 for years 1 to 4, respectively, are requested to purchasing reagents for generation of SARS pseudoviruses and the luciferase kits and related reagents for testing the neutralizing and cross-neutralizing antibodies against SARS pseudoviruses.

PUBLICATION COSTS: \$1,000 per year is requested.

EQUIPMENT/FACILITY RENTAL/USE: About \$4,200 per year for the years 1-5 requested for the costs of maintaining equipment (e.g., culture hoods, centrifuges, freezers, CO2 incubators, ELISPOT reader, ELISA reader, ELISA washer, etc.) and the costs of using equipment in NYBC's Core Facility, such as the FACSCanto analyzer.

OTHER EXPENSES:

Animal purchase and maintenance (total \$60,000: \$20,000 for year 1, \$35,000 for year 2, and \$5,000 for year 3): about 40 groups of mice (10 mice/group) will be used for the studies in Aim 1, including 10 groups for immunogenicity study in Aim 1.C, 12 groups for optimization of antigen dose and adjuvant formulation in Aim 1.E.1 (see TABLE II in Milestone), and 18 groups for optimization of route of administration and dose frequency of immunizations in Aim 1.E.2 (see TABLE III in Milestone). Each experiment will be repeated twice. Therefore, total about 1200 mice will be needed. The maintenance period for each adult mouse is about 90 days. The cost for purchase is \$20.45/mouse and for maintenance is \$0.32/day/mouse.

Miscellaneous (\$12,534): About \$2,500 per year for the years 1-5 is requested for Misc. expenses, such as office supplies, communication, shipping, and printing expenses, etc.

*Year 2-5 increases: Salaries are increased at the rate of 3% per year. The NIH salary cap for 2011 is \$199,700.

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Chien-te	Kent		PD/PI	Institutional Base Salary	EFFORT			24,399.00	5,809.00	30,208.00
2.	Dr.	Tehsheng			Co-Investigator					5,717.00	1,219.00	6,936.00
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:										Total Senior/Key Person		37,144.00

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Associate	EFFORT			20,500.00	6,494.00	26,994.00
1	Research Assistant				17,340.00	5,493.00	22,833.00
2	Total Number Other Personnel				Total Other Personnel		49,827.00
Total Salary, Wages and Fringe Benefits (A+B)							86,971.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

1,500.00

2. Foreign Travel Costs

Total Travel Cost

1,500.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 1* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2012* **End Date:** 04-30-2013**Budget Period:** 1

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	27,000.00
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	
8. Animal care and maintenance	3,000.00
9. Core Charges (Bioplex, histology, pathology)	6,529.00
Total Other Direct Costs	36,529.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	125,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1. Modified total direct costs	53.00	125,000.00	66,250.00
Total Indirect Costs			66,250.00
Cognizant Federal Agency		DHHS Division of Cost Allocation, Darryl Mayes, 202-401-2808	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	191,250.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name:	Mime Type: application/pdf
	1248-UTMBBUDGETJUSTIFICATION.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 2

* ORGANIZATIONAL DUNS: 8007711490000

* Budget Type: Project Subaward/Consortium

Enter name of Organization: The University of Texas Medical Branch

* Start Date: 05-01-2013

* End Date: 04-30-2014

Budget Period: 2

A. Senior/Key Person

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Chien-te	Kent		PD/PI	Institutional Base Salary	EFFORT			29,864.00	7,111.00	36,975.00
2.	Dr.	Tehsheng			Co-investigator					5,831.00	1,244.00	7,075.00

Total Funds Requested for all Senior Key Persons in the attached file

Additional Senior Key Persons:

File Name:

Mime Type:

Total Senior/Key Person

44,050.00

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Associate	EFFORT			20,910.00	6,624.00	27,534.00
1	Research Assistant				35,374.00	11,206.00	46,580.00
2	Total Number Other Personnel						74,114.00
Total Salary, Wages and Fringe Benefits (A+B)							118,164.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 2* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2013* **End Date:** 04-30-2014**Budget Period:** 2**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

1,500.00

2. Foreign Travel Costs

Total Travel Cost

1,500.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 2* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2013* **End Date:** 04-30-2014**Budget Period:** 2

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	65,000.00
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	
8. Animal maintenance	7,000.00
9. Core Charges (Bioplex, Histology, Pathology)	8,336.00
Total Other Direct Costs	80,336.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	200,000.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1. Modified total direct costs	53.00	200,000.00	106,000.00
Total Indirect Costs			106,000.00
Cognizant Federal Agency		DHHS Division of Cost Allocation, Darryl Mayes, 202-401-2808	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	306,000.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name:	Mime Type: application/pdf
	1248-UTMBBUDGETJUSTIFICATION.pdf	
(Only attach one file.)		

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

RESEARCH & RELATED BUDGET - SECTION A & B, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3**A. Senior/Key Person**

Prefix	* First Name	Middle Name	* Last Name	Suffix	* Project Role	Base Salary (\$)	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits (\$)	* Funds Requested (\$)
1.	Dr.	Chien-te	Kent		Tseng	PhD	PD/PI					
2.	Dr.	Tehsheng			Chan	PhD	Co-investigator					
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:						File Name:	Mime Type:	Total Senior/Key Person				44,930.00

B. Other Personnel

* Number of Personnel	* Project Role	Cal. Months	Acad. Months	Sum. Months	* Requested Salary (\$)	* Fringe Benefits	* Funds Requested (\$)
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
	Secretarial/Clerical						
1	Research Associate						
1	Research Assistant						
2	Total Number Other Personnel						
Total Salary, Wages and Fringe Benefits (A+B)							120,526.00

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

RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item

* Funds Requested (\$)

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment:

File Name:

Mime Type:

D. Travel

Funds Requested (\$)

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

1,500.00

2. Foreign Travel Costs

Total Travel Cost

1,500.00

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

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

RESEARCH & RELATED BUDGET - SECTIONS F-K, BUDGET PERIOD 3* **ORGANIZATIONAL DUNS:** 8007711490000* **Budget Type:** Project Subaward/Consortium**Enter name of Organization:** The University of Texas Medical Branch* **Start Date:** 05-01-2014* **End Date:** 04-30-2015**Budget Period:** 3

F. Other Direct Costs	Funds Requested (\$)
1. Materials and Supplies	22,000.00
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	
8. Animal maintenance	3,974.00
9. Core Charges (Bioplex, Histology, Pathology)	2,000.00
Total Other Direct Costs	27,974.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	150,000.00

H. Indirect Costs				
	Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	* Funds Requested (\$)
1. Modified total direct		53.00	150,000.00	79,500.00
			Total Indirect Costs	79,500.00
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)	229,500.00

J. Fee	Funds Requested (\$)

K. * Budget Justification	File Name:	Mime Type: application/pdf
	1248-UTMBBUDGETJUSTIFICATION.pdf	
	(Only attach one file.)	

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

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		126,124.00
Section B, Other Personnel		199,537.00
Total Number Other Personnel	6	
Total Salary, Wages and Fringe Benefits (A+B)		325,661.00
Section C, Equipment		
Section D, Travel		4,500.00
1. Domestic	4,500.00	
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		144,839.00
1. Materials and Supplies	114,000.00	
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		
8. Other 1	13,974.00	
9. Other 2	16,865.00	
10. Other 3		
Section G, Direct Costs (A thru F)		475,000.00
Section H, Indirect Costs		251,750.00
Section I, Total Direct and Indirect Costs (G + H)		726,750.00
Section J, Fee		

BUDGET JUSTIFICATION

PERSONNEL:

The UTMB-Galveston fringe benefit rate is calculated by salary range as follows:

Salary range	Fringe benefit rate	Salary range	Fringe benefit rate
\$1 - \$65,000	31.68%	\$140,101 - \$180,000	19.53%
\$65,001 - \$79,100	25.31%	\$180,001 - \$245,000	17.95%
\$79,101 - \$106,800	23.81%	\$245,001 - +	14.32%
\$106,801 - \$140,000	21.33%		

Principal Investigator: Chien-Te K. Tseng, PhD, Associate Professor, Department of Microbiology and Immunology, Center for Biodefense and Emerging Diseases, Institute of Human Infection and Immunity, Sealy Center for Vaccine Development, and Galveston National Laboratory (GNL) at UTMB-Galveston, will serve as principal investigator. Dr. Tseng's main research interest focuses on defining the host innate antiviral responses against and the pathogenesis of emerging and reemerging RNA viruses, including severe acute respiratory syndrome (SARS) coronavirus (CoV), Rift Valley Fever (RVF) virus, Dhori virus (a surrogate for avian influenza H5N1 virus), and Junin virus. Dr. Tseng has been a lead investigator in SARS pathogenesis ever since the initial outbreak of SARS in early 2003. In addition to his well-accepted *in vitro* model for SARS-CoV-host interaction by using pathologically relevant human lung epithelial cells, he is a lead author in establishing transgenic mice expressing human angiotensin-converting enzyme 2 (hACE2), the functional viral receptor, shown to be highly susceptible to diseases and mortality associated with SARS-CoV infection. He has also extended his animal models beyond the transgenic mouse model for his SARS research, including several strains of gene knockout (KO) mice and wild-type (*wt*) mice. He also has adopted a mouse-adapted strain of SARS-CoV, termed MA-15, which causes lethal infection in otherwise resistant *wt* BALB/c mice. His highly dedicated team for this proposed project consists of two highly trained and experienced research associates and is fully capable of evaluating the efficacy of candidate vaccines. Dr. Tseng will be fully engaged in all phases of this project, including coordinating, planning and designing, and together with his staff, executing and supervising the proposed experiments. He will also be responsible for the interpretation of the data, preparing the reports and manuscripts as required for publications. He will devote effort (months) in year 1, and effort (months) in Years 2 and 3 to the project.

Co-Investigator: Tehsheng Chan, MD/PhD, Professor, Department of Microbiology and Immunology. Dr. Chan, an accomplished geneticist and cell biologist, joined the UTMB SARS research group consisting of virologists and immunologists soon after the SARS epidemic broke out. One of his major contributions to the group is to design and develop transgenic mouse models for SARS which led to the derivation of mouse models for lethal and non-lethal infection by SARS-CoV. One of the transgenic mouse lineages will be a key model to be used in this contract research. Dr. Chan's past experience included continuous NIH-supported research, including R01, R21 and R03, as well as a SBIR grant and a contract, since 1973. Dr. Chan will be responsible for the maintenance and production of genetically verified, phenotypically stable, pathogen-free transgenic mice for the proposed experiments. He will devote effort (months) for years 1-3 to the project.

Research Staff: Patrick Newman, Research Associate, has been working with Dr. Tseng on SARS-animal models for the last 8 years. He is one of the most best-trained research staff members with high containment laboratory experience, including A/BSL-3 and A/BSL-3E, and A/BSL-4. His primary duty will be to carry out the A/BSL-3 experiment, including inoculation, monitoring infected animals, collecting various tissues for various analyses (e.g., virologic, immunological, and histopathological changes). He will devote effort (months) for years 1-3 to the project.

Research Staff: Tania Garron, Research Associate, has also been working with Dr. Tseng on SARS research for the last 6+ years. In addition to teaming up with Patrick Newman for carrying out the animal studies, she will be working with the PI in conducting laboratory analyses required to complete the proposed studies, including titrating virus, preparing tissues for histology, immunology, cytokine profiling, pathology, performing IHC and

microneutralization tests. She will also assist Dr. Chan in the phenotyping and maintenance of transgenic mouse colonies. In addition, she will be responsible for recordkeeping and maintaining Dr. Tseng's BSL-2 and A/BSL-3 laboratories. She will devote effort (months) for year 1 and effort (months) for years 2-3 to the project.

SUPPLIES: Monies have been budgeted for consumable laboratory supplies to perform hematology, clinical chemistry, virology, and pathology assays as outlined in the tables below.

ANIMAL PURCHASE:

Year 1: \$ 1,500 (60 Balb/c mice @ \$24/mouse plus shipping expenses)
Year 2: \$ 12,000 (120 transgenic mice @ \$100/mouse)
Year 3: \$ 6,250 (ca. 250 Balb/c mice @\$24/mouse plus shipping expenses)

TRAVEL: Funds in the amount of \$1,500 per year for years 1-3 have been budgeted for Drs. Tseng and Chan to present results at national meetings.

OTHER EXPENSES:

Funds are requested for core charges (Histology, Pathology, Bioplex) and animal care costs.

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OMB Number: 0925-0001

1. Project Director / Principal Investigator (PD/PI)

Prefix: * First Name:
 Middle Name:
 * Last Name:
 Suffix:

2. Human Subjects

Clinical Trial? No Yes
 * Agency-Defined Phase III Clinical Trial? No Yes

3. Applicant Organization Contact

Person to be contacted on matters involving this application

Prefix: * First Name:
 Middle Name:
 * Last Name:
 Suffix:
 * Phone Number: Fax Number:
 Email:

* Title:

* Street1:
 Street2:
 * City:
 County/Parish:
 * State:
 Province:
 * Country: * Zip / Postal Code: