

საგარეო ურთიერთობების
მინისტრო

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Operative Commencement Date: February 1, 2014

Emerging zoonotic pathogens in Georgian bats

Prevention

US Department of Health & Human Services / US Centers for Disease Control and

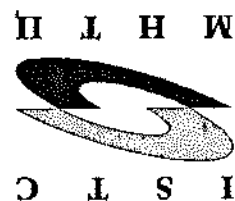
AND

THE NATIONAL CENTER FOR DISEASE CONTROL AND PUBLIC HEALTH

THE INTERNATIONAL SCIENCE AND TECHNOLOGY CENTER,

BETWEEN

PARTNER PROJECT AGREEMENT #G-2101p



Definitions

"Agreement" means an ISTC project agreement
"Party" means a Party to the Agreement Establishing an International Science and Technology Center
"Financing Party" means a Party providing funds for an ISTC project (The United States Department of Health and Human Services through the BTEP program);
"Partner" means an organization that has been approved by the ISTC Governing Board to participate in the ISTC Partner Program on a regular basis (The U.S. Department of Health and Human Services) and acts as an ISTC partner;
"Recipient" means an organization of the Russian Federation or other country of the former Soviet Union, which conducts work under an ISTC project agreement

The International Science and Technology Center (hereinafter referred to as "the Center"), the **National Center for Disease Control and Public Health** (hereinafter referred to as "the Recipient"), and the **U.S. Department of Health and Human Services/ US Centers for Disease Control and Prevention** (hereinafter referred to as the "Partner"), represented for the purpose of the signature of this Project Agreement (hereinafter referred to as "the Agreement") by their authorized representatives (with the Center, the Recipient, and the Partner hereinafter referred to collectively as "the Signatory Parties"),

TAKING INTO ACCOUNT THE FOLLOWING CONSIDERATIONS:

The United States of America, Japan, the Russian Federation and, acting as one Party, the European Atomic Energy Community and the European Community (with these two organizations hereinafter referred to as "the European Community") signed the Agreement Establishing the International Science and Technology Center on November 27, 1992 (hereinafter referred to as "the ISTC Agreement") and the Protocol on Provisional Application of the Agreement Establishing the International Science and Technology Center on December 27, 1993 (hereinafter referred to as "the ISTC Protocol").
The Republic of Georgia, the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Kyrgyz Republic, Norway, the Republic of Korea, the Republic of Tajikistan and Canada have acceded, and additional States may accede, to the ISTC Agreement and to the ISTC Protocol to participate in the activities of the Center.

The Center is a legal entity and has been registered by the Ministry of Foreign Affairs of the Russian Federation as an international organization with its headquarters in Moscow.

The Recipient is a legal entity within the Republic of Georgia.

The Partner, established as a U.S. Federal Department under U.S. law and having its principal office in Washington, DC, is a legal entity that has been approved by the Center's Governing Board to participate in Center activities as an ISTC Partner, in accordance with the Memorandum of Agreement between ISTC and DHHS signed on July 6, 1999 and August 10, 1999.

The Governing Board of the Center has approved a project to be funded by the Partner through the Center in the domain covered by the Agreement concerning cooperation in approved projects in the health sector to facilitate the non-proliferation of weapons and weapons expertise.

The Partner has agreed to provide financial support for such project, under the DHHS Biotechnology Engagement Program (BTEP) and in accordance with the Article II, paragraph 2 of the Memorandum of Agreement.

As set forth in the ISTC Agreement, funds received by a legal entity in connection with the Center's projects shall be excluded in determining the profits of that organization for the purpose of tax liability and funds received by persons in connection with the Center's projects shall not be included in these persons' taxable incomes.

All parties to this Project Agreement shall conduct this project of work consistent with the principles of the ISTC Statute provisions and applicable international conventions and agreements for which the USA and Republic of Georgia are Parties.

HAVE AGREED AS FOLLOWS:

Article 1 - Scope of the Agreement

1.1 The Recipient shall carry out the work plan set forth in Annex I according to the conditions of the Agreement, subject to the provisions of the ISTC Agreement, the ISTC Protocol, the Statute of the Center (hereinafter referred to as "the ISTC Statute"), and the Principles for Partner Participation in ISTC Activities, which govern in case of conflict. The activities carried out under the Agreement are entitled: *Emerging zoonotic pathogens in Georgian bats* – (hereinafter referred to as "the Project").

1.2 Subject to any special conditions in Article 11 or any amendments or exclusions by any other Articles, the detailed terms of the Agreement are specified in the Annexes that form an integral part of the Agreement. In the case of conflict between any provision in the Annexes and any other provision of the Agreement, the latter shall prevail.

1.3 The Partner may request through the Center access to the Project site for the consultation on and the evaluation of the progress of the Project. The Recipient shall use its best efforts to comply with such requests.

Article 2 - Duration of the Project

The duration of the Project is estimated to be 18 months from February 1, 2014 (hereinafter referred to as "the Operative Commencement Date").

Article 3 - Sub-agreements with Other Participating Institutions

There are no sub-agreements relating to the Agreement.

Article 4 - Financial Contribution of the Partner through the Center

4.1 The total cost of the Project to the Center shall not exceed US\$ 100,000.00 (One hundred thousand dollars and zero cents). This total includes:

(1) items to be reimbursed in cash to the Recipient in accordance with Article 4.3,
(2) grants in cash to be made by the Center directly to the individual participants in the Project (hereinafter referred to as "Individual Participants") for financial support of the individual participants in accordance with Article 4.4, and
(3) items to be provided in-kind by the Center to the Recipient in accordance with Article 4.5.

After further consideration of the costs and availability of the items to be provided, the Recipient may, with the concurrence of the Center's representative, interchange items between Articles 4.3 and 4.5 with corresponding adjustments of the cost estimates for each Article.

4.2 The Partner shall provide to the Center project funds consistent with the bilateral financial Memorandum of Agreement between the Center and the Partner no later than the Operative Commencement Date of the Project.

4.3 The Center shall reimburse the Recipient for expenditures by the Recipient in accordance with Annexes I and II. The estimated cost of such expenditures is US\$5,590.

4.4 The Center shall make direct grants in dollars to individual participants in the Project in accordance with Annex I at an estimated cost of US\$58,830. This amount can be increased at the request of the Recipient and with the concurrence of the Center's representative and of the affected individual Participants provided the costs of Article 4.3 and/or Article 4.5 are reduced accordingly.

4.5 The Center's in-kind contributions to the Recipient are estimated at US\$35,580. These in-kind contributions will be provided in accordance with the lists of items to be provided and the timetables set forth in Annex I in order to enable the Recipient to meet the work schedule for the Project. Failure by the Center to provide the in-kind contributions in a timely manner may give rise to a modification of the relevant provisions of the Agreement.

The Center's in-kind contributions, which are provided for exclusive use on the Project by the Recipient during the lifetime of the Project, include the following categories of items:

4.5.1 The Center shall provide in-kind equipment to the Recipient (if any) in accordance with Annex I (hereinafter referred to as "**Center Provided Equipment**"). Center Provided Equipment will be delivered to the Recipient at a CIS customs entry point specified by the Center. The Center will be responsible for clearance through customs, and the Recipient will be responsible for transporting the equipment from the customs entry point to the site of the Project. The equipment shall be inventoried, preserved, accounted for, and maintained throughout the Project by the Recipient. The equipment shall be used only in areas that are open for monitoring and auditing in accordance with Article 9. The title to Center Provided Equipment with an acquisition per item cost of less than \$2,500 will vest in the Recipient once it has been provided. The title to all other Partner Provided Equipment will remain with the Center, unless mutually agreed otherwise.

4.5.2 The Center shall provide in-kind materials in accordance with Annex I (hereinafter referred to as "**Center Provided Materials**"). Center Provided Materials will be delivered to the Recipient at a CIS customs entry point specified by the Center. The Center will be responsible for customs clearance, and the Recipient will be responsible for transporting the materials to the site of the Project.

4.5.3 The Center shall provide in-kind services (if any) in accordance with Annex I (hereinafter referred to as "**Center Provided Services**").

4.5.4 The Center shall provide in-kind international travel by the Recipient in accordance with Annex I (hereinafter referred to as "**Center Provided Travel**"). The cost of the Center's contribution will not exceed US\$12,000.

Center Provided Travel will be undertaken by participants in the Project only after advance approval for each trip by the Partner and notification to the Center. The Recipient shall send to the Partner and Center requests for travel not less than 30 days prior to the beginning of each trip unless a shorter time for advance request is approved by the Partner and then by the Center for a specific trip. The Center will provide directly to the traveler the funds to cover such travel, provided that such travel is approved by the Partner prior to the beginning of the travel.

The Center's responsibility does not include making arrangements for visits, passports, visas, or travel reservations but is limited to providing financial support, including funds to cover the costs of passport and visa fees as well as transportation and lodging, in accordance with the travel regulations of the Center.

The Recipient is responsible for ensuring that the financial support requested pursuant to this paragraph does not exceed the financial limit set forth above.

4.5.5 The Center shall provide in-kind the costs of certain bank transfer fees in accordance with Annex I (hereinafter referred to as "**Center Provided Bank Fees**"). They will be limited to fees necessary to transfer funds into the bank account or accounts of the Recipient and fees associated with the payment of cash to individual participants in the Project. They will be paid directly by the Center to the appropriate banks.

Article 5 - Cash Payments by the Center to the Recipient

5.1 Pursuant to Article 4.2, the Center shall make its payments to the Recipient through Dedicated Bank Account(s), as set forth in Article 6.6 of Annex II in banks acceptable to the Center.

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6.3 Cost statements shall comply with the formats prescribed in Annex III.

If such a statement is not submitted on time, the Center or the Partner may request in writing its submission. If the Center and the Partner do not receive the submission within thirty days after such a written request, the Center, in consultation with the Partner, may consider the previously claimed costs to be final and determine to make no further reimbursement.

To the Center, the Partner and the U.S. Counterpart Scientist:
— English: one copy via electronic transmission (e-mail or on diskette) and one printed copy;

6.2 A consolidated cost statement shall be submitted by the Recipient to the Partner and the Center within two months of the completion, cessation or termination of the work financed by the Partner as follows:

The first statement is to be submitted no later than four months after the Operative Commencement Date and will cover the first three months of Project activity. Subsequent statements are to be submitted at three-month intervals following submission of the first statement. The statements will be appended to the relevant technical reports specified in Article 7. The cost statements will include the costs of grant payments directly to individual Participants, but the requests for such grant payments in accordance with Article 5 should not be delayed pending preparation of the entire quarterly cost statements called for in this Article. Such payments may be nevertheless suspended by the Center in case if the cost statement for the previous quarter was not yet submitted to the Center.

To the Center, the Partner and the U.S. Counterpart Scientist:
— English: one copy via electronic transmission (e-mail or on diskette) and one printed copy;

6.1 Quarterly cost statements shall be submitted by the Recipient to the Partner and the Center as follows:

Article 6 - Cost Statements by the Recipient

Since the Individual Participants will remain employees of the Recipient, the Center's act of direct grant payments to the Individual Participants will not transfer from the Recipient to the Partner or the Center any liability for damages caused by the Individual Participants during execution of the Projects or any liability for damages to the Individual Participants during execution of the Project.

At the end of the third month following the Operative Commencement Date and every three months thereafter throughout the duration of the Project, the Recipient represented by the Project Manager who is identified in Annex I will provide the Partner and the Center with a list of grant payments that are due at that time to Individual Participants in accordance with the payment levels set forth in Annex I and the amount of time devoted to the Project by each Individual Participant as certified by the Project Manager. Such payments will then be promptly made as appropriate by the Center.

5.2 Pursuant to Article 4.4, the Center shall make grant payments directly to Individual Participants in accordance with letters of agreement between the Center and the Individual Participants. The Center shall ensure that banking arrangements are established for these payments.

— A retention shall be made by the Center of US\$2,950. The retention shall be released to the Recipient within one month following the approval by the Partner and Center of the last technical or financial document or other deliverable required by the Agreement.

— Quarterly payments shall be estimates by the Center of the funds required to support the work plan set forth in Annex I reports and associated cost statements in accordance with Article 7 and Annexes II and III. The amounts of the first six months of the Project, as soon as possible following the Operative Commencement Date;

— An advance payment of US\$2,385 which is the estimated level of expenditures by the Recipient during the

Article 7 - Reports and Other Project Outputs

7.1 The Recipient shall submit the following reports in accordance with the format prescribed in Annex III as follows:

To the Center, the Partner and the U.S. Counterpart Scientist:

— English: one copy via electronic transmission (e-mail or on diskette) and one printed copy;

It is the responsibility of the Recipient, in consultation with the Partner, to indicate clearly what parts of reports and other project outputs contain invention or business confidential information and specify any limitations on circulation. For each report or other project output, an unrestricted version shall also be provided. All reports containing invention or business confidential information shall be handled by the Center according to established internal procedures.

• Quarterly progress reports covering each three-month period following the Operative Commencement Date to be submitted within one month after the end of each reporting period.

• Annual reports. For projects of duration of more than one year, an annual report will be submitted 13 months after the Operative Commencement Date and will cover the first year of project activity. For projects of duration of more than two years, a second annual report will be submitted 12 months later.

• Other reports. The Recipient and the Partner will define other reports in Annex I.

• A final report. A draft final report will be submitted to the Center and the Partner within two months of the completion of the Project work plan, cessation or termination of the Agreement, or the agreed completion date of the Agreement, whichever is the earliest. The Partner, in consultation with the Center, shall submit to the Center and Recipient its evaluation and comments on the draft final report within two months after receipt of the latter. The definitive final report will then be submitted by the Recipient to the Center and the Partner within one month after receipt of the Partner's evaluation. If the Partner does not submit an evaluation within two months, the draft final report shall be considered the definitive final report.

• Edited reports for publication will be provided as specified in Article 4.1 (c) of ANNEX II.

7.2 For the purposes of the Agreement, "deliverables" are defined as any significant outputs, including all reports, of the Project to be submitted in accordance with Annexes I, II and III.

Article 8 - Ownership and Exploitation of Results

8.1 The results arising from the Agreement shall be allocated between the Recipient and the Partner in accordance with Part E of Annex II. The Recipient and the Partner shall take appropriate action to exploit or commercialize the results and to make available the results to third parties in accordance with the framework specified in Part E of Annex II. Cooperation agreements with foreign institutions complementing, but not conflicting with, this Framework may be entered into by the Recipient and the Partner.

8.2 Prior to completion of the Project, the Recipient shall submit to the Center a Technology Implementation Plan developed in consultation with the Partner. For projects with a duration of eighteen months or longer, this Plan will be submitted 6 months prior to the anticipated Project completion date. For projects with a duration of less than eighteen months, the Plan will be submitted three months prior to the anticipated Project completion date.

8.3 Exploitation of results shall be limited to applications for peaceful purposes. In this regard, the Recipient and the Partner shall ensure that any results which could result in concerns over proliferation of weapons technology and transfer of sensitive technologies will be protected in accordance with relevant laws of the Republic of Georgia and international agreements and conventions to which the Republic of Georgia is a Party.

Article 9 - Auditing and Monitoring

- 9.1 Access by the Center to carry out on-site monitoring of all technical activities of the Project shall be granted by the Recipient, and information and assistance shall be given for the verification and evaluation of the Project activities as set out in Annex II.
- 9.2 Financial audits of costs may be carried out by the Center as specified in Annex II.
- 9.3 Auditing and Monitoring of institutions located in closed cities shall be carried out according to the procedures adopted at the sixth Governing Board Meeting of the Center.

Article 10 - Amendments, Variations, or Additions

The provisions of this Agreement and its Annexes may be amended or supplemented only by means of a written agreement signed by authorized representatives of the Signatory Parties. However, operational changes in Annex I, other than changes in the Project Manager, the Participating Institution, daily rates of leading persons of the Project and the overall schedule, can be made by agreement between the Center and the Recipient.

Article 11 - Special Conditions

11.1 With respect to the Protection of Human Subjects

- (i) The CDC has reviewed the proposed activities and found that they do consist of research involving human subjects.

- (ii) The project proposal must be reviewed in accordance with the U.S. law and international policies and regulations regarding biomedical research involving human subjects

- (iii) The Implementing Agencies shall be responsible for ensuring that any research work conducted under this project Agreement shall be carried out consistent with The Public Health Service Act as Amended by the Health Research Extension Act of 1985 and the Federal Policy for the Protection of Human Subjects of 1991

- (iv) The Recipient and the Partner shall follow the principles of *The Belmont Report, Principles and Guidelines for Protection of Human Subjects of Research* or *The World Medical Association Declaration of Helsinki, Recommendations Guiding Medical Doctors in Biomedical Research Involving Human Subjects*, adopted by the 18th World Medical Assembly and revised in 1989.

11.2 With respect to the use of Laboratory Animals

- (i) Laboratory animals and/or endangered species are not expected to be a subject of this research or be involved during the execution of work under this specific project.

- (ii) However, if this proves otherwise, the project proposal must be reviewed in accordance with the U.S. law and international policies and regulations regarding biomedical research involving laboratory animals

- (iii) The Implementing Agencies shall be responsible for ensuring that any activity carried out pursuant to this agreement and involving laboratory animals is in compliance with the Foreign State of Compliance, International Guiding Principles for Biomedical Research and the Public Health Service Policy on Humane Care and Use of Laboratory Animals as revised in September of 1986

11.3 With respect to transport of Biological Samples

Any export/import involving transportation of biological samples shall be conducted in accordance with the existing laws, regulations, and administrative procedures of the United States of America and the Republic of Georgia. For current information regarding this issue please contact the following:

– the application of the contents of any report by a third party; or

– publication or transmission of any report in accordance with Articles 4 and 13 of Annex II unless it is shown that the Partner or Center have not taken reasonable steps to protect material clearly indicated as invention or business confidential information;

13.2 The Partner and the Center shall not be liable to the Recipient or third parties for claims arising from: the Project, including liability from direct grant payments to Individual Participants as set forth in Article 5.2.

Article 13 - Liability

13.1 The Partner and the Center shall not be liable for any material loss, damage, or injury of any nature arising from, or in connection with, the performance of the work under the Agreement solely by virtue of financing the Project, including liability from direct grant payments to Individual Participants as set forth in Article 5.2.

Exceptionally, the Recipient may appeal the Partner's and Center's decision in writing through the Executive Director of the Center to the Governing Board of the Center within four weeks of the communication of the Partner's and Center's decision.

The decision of the Governing Board shall be final and binding (unless otherwise provided). Pending the final settlement of disputes, the Recipient shall, nevertheless, proceed diligently with the performance of the Agreement.

The Recipient shall submit any claim, demand, or request in writing to the Partner and to the Center. The Partner and the Center will prepare a joint response. Unless a longer period is specified in the Agreement, the written decision of the Partner and the Center shall be delivered to the Recipient within four weeks of the receipt of the submission.

shall be subject to the following procedure:

- (i) A claim by the Recipient for any payments deemed due;
 - (ii) An interpretation of a provision of the Agreement; or
 - (iii) A request for relief or approval related to the Agreement,
- Disputes arising during performance of this Agreement including, in particular:

Article 12 - Disputes

(iii) The BTGP Advisory Group may ask the investigators to initiate a review by the appropriate Recombinant DNA Advisory Committee (RAC) or Institutional Biosafety Committee (IBC) at any time.

(ii) However, if this proves otherwise, the project proposal must be reviewed in accordance with applicable U.S. law and international policies and regulations, including the current "NIH Guidelines for Research Involving Recombinant DNA Molecules." These guidelines can be found on the NIH website at <http://www.nih.gov/od/oba> or from the NIH Office of Recombinant DNA Activities (301-496-9838).

(i) The CDC has reviewed the proposed activities and found that they do not consist of research involving recombinant DNA techniques for genetic manipulation.

Techniques

11.4 With respect to Manipulation of Genetic Material through the Use of Recombinant DNA

(iii) For U.S. imports of etiologic agents of livestock, poultry and other animals: United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services at (301) 734-3277.

(ii) For U.S. imports of etiologic agents of humans: Centers for Disease Control and Prevention, Office of Health and Safety at (404) 639-2453.

(i) For U.S. exports: Department of Commerce, Bureau of Export Administration at (202) 482-4811.

— the handling or use of products which result from the Project.

13.3 The Center shall not be liable for nonperformance by the Partner or the Recipient of their obligations under the Agreement.

Article 14 - Suspension and Termination of the Agreement

14.1 Suspension

14.1.1 If the Center identifies a problem with the Project's performance through audit, monitoring, annual reports or other ways, and discussions between the Center and the Recipient which shall ensure pursuant to a notice given by the Center to the Recipient do not produce any results, the Center shall reserve the right to suspend, in consultation with the Partner, the project or, when feasible from technical and other points of view, a part of the Project, within thirty days after the Center issues to the Project Manager a notification of suspension which specifies the problem, the effective date and the period of the suspension. In case auditing and monitoring procedures stipulated in the Agreement and Annex II are breached by the Recipient, the suspension shall come into force ten days after the notification given to the Recipient if no corrective action has been taken during this period. When the suspension becomes effective, the Center shall pay grants to the individual participants for the period they were engaged in the Project before the Center's declaration of suspension becomes effective. Any other payments or in-kind supplies to the Recipient shall in principle be suspended as long as the suspension remains in effect. The Recipient shall act in due diligence to mitigate any losses which may arise during this period.

Even when the suspension is in effect, the Center and the Recipient shall do the utmost to find a possible solution to the problem.

14.1.2 In case the Center and/or the Partner does not fulfill its obligations arising from the Project, namely in relation to Article 2 and 3, the Recipient shall reserve the right to suspend the Project within thirty days after the Recipient issues to the Executive Director of the Center a notification of suspension which specifies the problem, the effective date and the period of the suspension. Clauses of paragraph three of 14.1.1 shall be applied here as well.

14.2 Termination

14.2.1 When the Project is suspended by the Center, and the period of the suspension which is specified in the Center's notification expires and the Center and the Recipient are unable to find a solution, the Recipient shall negotiate and agree upon possible measures including partial termination of the Project. If these negotiations do not produce any viable alternative plan, the Center shall reserve the right to terminate the entire Project.

Notwithstanding the termination, the Recipient shall submit reports and cost statements covering the period up to the termination and the following provisions of the Agreement shall continue to apply: Article 12 (Disputes), Paragraph 7 (Accounting Principles, Allowable Costs, and Transfer of Costs) and 8.2 (Equipment) of Annex I of the Agreement, and Part B of Annex II of the Agreement (Information and Intellectual Property). If the Project is terminated, costs shall be limited to the allowable costs incurred by the Recipient prior to the suspension and other costs which the Center considers to be fair and reasonable having regard to commitments which have been reasonably entered into and which cannot be canceled or avoided.

14.2.2 When the Project is suspended by the Recipient, and the period of the suspension which is specified in the Recipient's notification expires and the Center are unable to find a solution, the Recipient shall terminate the Project. Clauses of paragraphs two and three of 14.2.1 shall be applied here as well.

14.3 Termination by Force Majeure Situations

When Force Majeure situations occur which make the Project implementation impossible, the Center in consultation with the Partner and the Recipient may terminate the Project with application of similar procedures as specified above.

14.4 Termination Forced due to the Violation of Laws or Regulations by the Recipient

When the Recipient has committed actions which obviously violate the national laws of the state where the

Recipient is a legal entity or which obviously are contrary to the stated objectives of the Center or to other conditions specified under the ISTC Agreement or the ISTC Statute, the Center shall terminate the Project with immediate effectiveness upon written notification of termination to the Recipient. In this case, the Recipient shall promptly return to the Center all payments and goods previously provided to the Recipient. Notwithstanding any termination, Part E of Annex II of the Agreement will continue to apply.

Article 15 - Correspondence

15.1 Any written notice, request or consent required under the Agreement is deemed to have been given or made when delivered in person to an authorized representative of a Signatory Party or when sent by mail, telex, telegram, electronic mail or facsimile (receipt acknowledgment required) to such Signatory Party at the following address:

For the Center:
International Science and Technology Center
32-34 Krasnoprolletarskaya Str.,
Moscow 127473, Russia
Facsimile: +7(499)978-4926
Senior Project Manager: Patrick Russo

For the Recipient:
National Center for Disease Control and Public Health
9 Asatiani Str, Tbilisi, 0177, Georgia
Facsimile: +995 32 243 30 59
Project Manager: Lela Urushadze

For the Partner
US Department of Health & Human Services/US Centers for Disease Control and Prevention
1600 Clifton Road NE, Mailstop A-05
Atlanta, GA 30329, USA
Facsimile: +1(404) 235 0293
Biosecurity Coordinator: Eduardo Gomez

For the U.S. Counterpart Scientist:
US Centers for Disease Control and Prevention
1600 Clifton Road NE
Atlanta, GA 30330, USA
Tel.: +1(404) 639 1055
Lead, Genomics and Diagnostics Development Unit, Rabies Team, Poxvirus and Rabies Branch:
Dr. Andres Velasco Vilaa, Microbiologist

15.2 Notice will be deemed to be effective as follows:
(i) in the case of personal delivery or mail, on delivery;
(ii) in the case of telexes, telegrams, electronic mail or facsimiles, within one (1) working day following confirmed transmission. A signed original will be provided by mail in all cases.

15.3 Each Signatory Party may change its address for notice hereunder by giving the other Party notice of such change pursuant to this Article.

Article 16 - Annexes

As specified in Article 1.2, the Annexes are an integral part of the Agreement. They are:

- | | |
|-----------|---------------------------------------|
| Annex I | Work Plan |
| Annex II | General Conditions |
| Annex III | Formats for Progress and Cost Reports |
| Annex IV | Disclaimer |

Article 17 - Entry into Force of the Agreement

The Agreement shall enter into force on February 1, 2014.

Prepared in Moscow in the English language.

For the Center

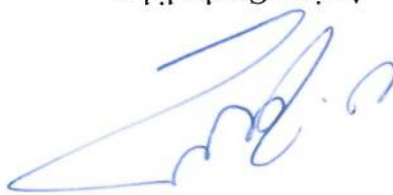


David Cleave
Acting Executive Director
ISTC

(date)

23.01.14

For the Recipient

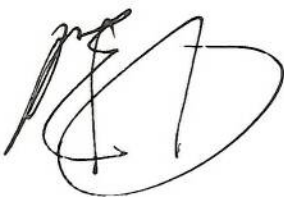


Amiran Gamkrelidze
General Director
National Center for Disease Control
and Public Health

(date)

11.02.2014

For the Partner



Eduardo Gomez
Biosecurity Coordinator
US Department of Health &
Human Services/US Centers for
Disease Control and Prevention

(date)

3 Feb 2014

W. J. W.

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ANNEX I

Work Plan

I. Summary Project Information

1. Project Title

Emerging zoonotic pathogens in Georgian bats

2. Project Manager

Name: Lela Urushadze	
Title: MS	Position: Virologist, Senior specialist
Street address: 9 M. Asatiani str	
City: Tbilisi	Region: Tbilisi
ZIP: 0177	Country: Georgia
Tel.: +995599245434	Fax:
E-mail: lelincdc@gmail.com	

3. Participating Institutions

3.1. Leading Institution

Short reference: NCDC	
Full name: National Center for Disease Control and Public Health of Georgia (NCDC&PH)	
Street address: 9 M. Asatiani str	
City: Tbilisi	Region: Tbilisi
ZIP: 0177	Country: Georgia
Name of Signature Authority: Amir Gamkrelidze	
Title: MD, PhD	Position: Director General
Tel.: +995 32 231 17 55	Fax: +995 32 231 17 55
E-mail: a.gamkrelidze@ncdc.ge	
Governmental Agency: Ministry of Health	

3.2. Other Participating Institutions

None

4. Foreign Collaborators/Partners

4.1. Collaborators

Institution: Centers for Disease Control and Prevention	
Street address: 1600 Clifton Rd NE	
City: Atlanta	Region/State: Georgia
ZIP: 30030	Country: USA
Person: Dr. Andres Velasco Vilaa	
Title: Microbiologist	Position: Lead, Genomics and Diagnostics Development Unit, Rabies Team, Poxvirus and Rabies Branch
Tel: 404-639-1055	Fax: 404-639-1060
E-mail: AVelascoVilaa1@cdc.gov	

4.2. Partners

Institution: U.S. Centers for Disease Control and Prevention	
Street address: 1600 Clifton Road NE, Mailstop A-05	
City: Atlanta	Region/State: GA
ZIP: 30329	Country: USA
Signature Authority: Eduardo Gomez	
Title: PhD	Position: Biosecurity Coordinator
Tel: + (404) 639-7356	Fax: + (404) 235 0293
E-mail: dbulll@cdc.gov	
Project Coordinator: David Bull	
Title: PhD	Position: BTEP Program Manager
Tel: + (404) 639-7356	Fax: + (404) 235 0293
E-mail: dbulll@cdc.gov	

5. Project Duration

18 months

6. Project Location and Equipment

Institution	Location, Facilities and Equipment
Leading Institution	Tbilisi, Georgia, National Center for Disease Control and Public Health CPHRL building BSL3, BSL2 Facilities Room numbers : 2131; 2213; 2216; 2221, Available main equipment: Biological Safety Cabinet, Class II, type 2A/B3, Incubators, CO ₂ Incubators, Refrigerators, -80° C Freezers, Fluorescent microscope, Thermo cyclers, Techno, Light Cycler Roche 2.0, Thermo-mixer, Eppendorf, Ultracentrifuge, Rotor-Green 3000 s, Centrifuge, Horizontal

2-2-2020

Coronaviruses

Among the different viral families hosted by the bats, much attention has been paid to the coronaviruses which demonstrate considerable variability in these hosts. This is also associated with the central role of Chiroptera as a source of coronaviruses closely related to the SARS virus which, no more than ten years ago, caused a serious global epidemic in humans.

Lysa viruses

Rabies virus is a genus of *lyssavirus*, and is listed as a priority pathogen by the Georgian ministries of Health and Agriculture. Even with limitations of the existing national surveillance system, 40-100 animal cases, and 6-12 human cases of rabies are documented in the country every year. No recent rabies virus (RABV) isolates have been characterized thoroughly at the molecular or antigenic level, and information on their circulation patterns, host ranges and distribution is lacking.

In frame of the project it is planned to carry out the following: PCR confirmation and sequencing of Lyssaviruses from DFA positive samples; collection of fecal material and rectal swabs from bats for further coronavirus investigation by molecular methodologies; comparison of sequence data of Lyssaviruses from human and bat samples.

Bats as Important Reservoirs of Zoonotic Diseases

Bats are increasingly recognized as reservoirs of emerging zoonotic pathogens. The importance of bats as a reservoir of infectious agents potentially transmissible to humans and other animals has become more evident with the passage of time. For example, West Caucasian bat virus (WCBV) was isolated from an insectivorous bat (*Miniopterus schreibersii*) in the Russian part of the Great Caucasian Ridge ~300 km away from the Georgian border. This virus, and related viruses Ikoma and Lleida Viruses, is currently the most divergent member of *Lyssavirus* genus. Commercially available rabies biologics do not provide protection against WCBV. The virus is pathogenic for laboratory animals (such as mice, and hamsters), but its significance for public health is unknown, given that rabies diagnosis in Georgia, similar to other countries of Eastern Europe, is typically clinical in the majority of cases, and is not supplemented by virus identification.

The National Centers for Disease Control and Public Health (NCD&PH) in collaboration with the U.S. CDC conducted bat surveillance in five regions of Georgia during June, 2012. Eight species of bats were identified among captured 236 bats in total. Samples from those bats are stored at NCD&PH and in September 2013 will be examined by direct fluorescent antigen (DFA) testing to detect Lyssaviruses. During the survey approximately 40% of collected bats were *Rhinolophus spp.* Accordingly, there is the possibility of existence newly emergent CoV in Georgian bats.

The data obtained from the above mentioned survey triggered initiation of this project. The objectives of the project will be: characterization of DFA positive Lyssaviruses by molecular methodologies; study prevalence of coronaviruses in Georgian bats; comparison of human and bat Lyssaviruses.

I. Introduction and Overview

II. Specific information

Gel documentation and analysis system, Genetic Analysis System CEQ-8000 Beckman	Coulter, Sequencer - ABI 3130XL; WGS - Illumina MiSeq platform; PCR Workstations
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In view of this, there have been numerous studies in recent years with the goal of finding new species of coronaviruses in bats in order to monitor the world situation, to study the possible origin of human SARS virus, and to predict possible new coronavirus outbreaks in humans.

On the other hand, the local surveillance of the emerging coronavirus will prepare the Caucasus region for the possible outbreak of the SARS-related CoV and a novel beta (β)-CoV which cause fatal respiratory diseases.

The 2002 severe acute respiratory syndrome (SARS) epidemic in China resulted in 8,422 laboratory-confirmed human cases with 916 fatalities. The causative agent was a newly emergent coronavirus (CoV) that may have originated from a similar virus, SARS-related CoV, discovered in Chinese horseshoe bats (*Rhinolophus spp.*). The recent implication of a novel beta (β)-CoV as the cause of fatal respiratory disease in the Middle East emphasizes the importance of surveillance for CoVs (MERs-CoV) that may potentially jump species from bats into humans. During the first bat survey Georgia ~40% of collected bats were *Rhinolophus spp.* accordingly, there exists the possibility of identifying newly emergent CoV in Georgian bats. These data will serve as preliminary data to support second survey consisting of the collection of fecal material and rectal swabs from bats for further coronavirus investigation by molecular methodologies. The potential risk of a new group of bat coronaviruses as a reservoir for human infections is suspected.

Benefits of Work

Implementation of this study will help in the future to identify the infection source and pathogens transmission path from the bats to humans in compliance with different epidemiological tools. Under the project diagnostic infrastructure is established that will lead to the early detection and prediction of emerging and reemerging disease in Georgia.

The accomplishment of the project will provide Georgian researchers involved in the project with the possibility to gain experience and establish international connections for performing fundamental, as well as applied studies within the framework of international science and technology programs in the field of biology and medicine.

The proposed project intends to research the emerging infectious diseases, specifically lyssavirus and coronavirus, and knowledge of the antigenic and genetic properties of lyssaviruses will be important for selecting further vaccine candidates.

In addition, although the significance of bats as reservoirs of zoonotic diseases in the Caucasus region is unknown, we do know that West Caucasian bat virus circulates in *Miniopterus schreibersii* bats in the area. The same bat species was recently implicated as reservoir of a novel *filovirus* in Spain. After second bat sampling, which will be provided under this project, will be collected different tissues from the bats, for further harvesting for several emerging pathogens. By inferences from other parts of Europe and world, bats from Caucasus are expected to maintain circulation of important zoonotic.

2. Expected Results and Their Application

The proposed study will be the first investigation of lyssavirus and coronavirus conducted in Georgia. Implementation of this study will help in the future to identify the infection source and pathogens transmission path from the bats to humans in compliance with different epidemiological tools.

The project will allow detection of novel emerging and re-emerging pathogens, like coronavirus, as well as a better understand of their host range, pathobiology, distribution and circulation patterns, and the existing and potential threat for veterinary and human public health, as well as for the bat populations, which perform an essential ecological role.

Project will supply the laboratory with reagents necessary for providing reliable results that are important for timely responses to outbreaks of emerging pathogens.

Finding new isolates of WCBV or novel lyssaviruses and coronaviruses in bats will provide new insights on the diversity of rabies and acute respiratory syndrome causative agents in the region. This information can be of

further use for vaccine development and for the implementation of focal prevention and control strategies to prevent emerging infectious diseases in humans.

No recent lyssa and corona viruses have been investigated, characterized at the molecular level and information on their circulation patterns, host ranges and distribution is lacking. Improvements in laboratory capacity and staff training can accomplish this goal.

Phylogenetic analysis of lyssavirus strains isolated in the frame of the project will provide us with findings for understanding lyssavirus evolution

Antigenic and genetic properties of lyssaviruses may be important for selecting further vaccine candidates, and immunoglobulin preparations.

The aim of the project is to establish laboratory diagnostic infrastructure that will lead to the early detection and prediction of emerging and reemerging disease in Georgia

The incidence of rabies post-exposure prophylaxis (PEP) in Georgia is highest in Europe region, 876/100,000. Expected that West Caucasian bat virus (WCB), circulate at Georgia, Commercially available rabies biologics do not provide protection against WCBV.

Implementation of this study will help in the future to identify the infection source and pathogens transmission path from the bats to humans in compliance with different epidemiological tools

3. Meeting ISTC Goals and Objectives

The development of the project will provide Georgian researches that are involved in the project with the possibility to gain experience and establish international connections for performing fundamental, as well as applied, studies within the framework of international science and technology programs in the field of biology and medicine. It also will allow the establishment and organization of productive international activities at the National Center for Disease Control and Public Health.

4. Scope of Activities

Task 1

Task description and main milestones		Participating Institutions
Bat surveillance for taking different types of samples		
1- NCDC		
Description of deliverables		
1	Ordering equipment and capacities for bat survey, working on the protocols – develop protocols based on experience of CDC, USA, Planning of survey	
2	Collecting bats from 2 regions of Georgia: Imereti and Kakheti and taking tissues, for Lyssavirus investigation brains and blood, for corona virus collection archival fecal material and rectal swabs, Handling, ringing, and sampling, dissection by other tissues lung, kidney, liver, spleen, intestine for further investigation on different viruses	
3	Bat Samples arrangement and storage for further investigation	

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Task 4

Task description and main milestones		Participating Institutions
Laboratory PCR diagnostic for Corona virus		
Description of deliverables		
1.	Ordering reagents for coronavirus PCR diagnostic, Implementation of a pan-coronavirus RT-PCR assay in bat's fecal and organ samples	
2.	Coronavirus positive specimens by RT_PCR will be further genetic characterization by sequencing and phylogenetic reconstructions.	
3.	Combination of all obtained laboratory results with epidemiological data will be used to construct some predictive models which will be used to enhance disease surveillance strategies and better implement prevention and control activities	

Task 3

Task description and main milestones		Participating Institutions
Strengthening of laboratory capacity for detection and characterization of Rabies etiological agents		
Description of deliverables		
1	Purchasing of supplies and reagents for project needs. Development and implementation of standard operating protocols for the detection and genetic characterization of etiological agents of rabies	
2	Screening of bat's brain samples for the detection of Lyssavirus antigen by Direct fluorescent antibody test (DFA)	
3	Genetic characterization of all Lyssavirus positive samples by end point Reverse Transcription-PCR (RT-PCR) coupled to nucleotide sequence and phylogenetic analysis of the partial and complete N-gene sequences.	
4	Reconstruction of the evolutionary and dissemination dynamic history of recent and historical lyssaviruses found in this study	

Task 2

Task description and main milestones	Participating Institutions	Description of deliverables	
		Laboratory PCR diagnostic for Corona virus	I - NCDC
1.	Analysis data quarterly		
2.	Comparison obtained results with different study data		
3.	Working with epidemiologists for identification the infection source and pathogens transmission path from the bats to humans in compliance with different epidemiological tools.		

5. Role of Foreign Collaborators/Partners

Provide training and transfer adequate technology for the detection and genetic characterization of Lyssavirus and coronavirus circulating in the bats populations of the Georgian Caucasus.

Provide sequences of primers and reagents for the detection of Lyssaviruses and coronaviruses

Provide guidance on bio safety and good laboratory practices to handle Lyssaviruses and coronaviruses

6. Technical Approach and Methodology

The conducted work will include following methodologies:

- Bat Surveillance, which will be conducted 2 regions of Georgia: Imereti and Kakheti during first quarter of project. Bats, will be sampled randomly, manually or using nets from different roosts in compliance with CDC protocols. The numbers per roost and species will approved by expert zoologists to avoid harmful consequences for bat populations.
- The Bats will be anesthetized by a 0.05- to 0.1-mg intramuscular injection of ketamine hydrochloride, measured, identified to species, weighed, ringed, recorded, and subjected to euthanasia via cardiac bleeding out. Afterward, oral and fecal swabs, and the following tissue samples were obtained: brain, lung, kidney, liver, and spleen. Will be collected archival fecal material. All specimens will be held in dry ice (after collection) and later placed at -80°C .

Lyssaviruses

- Lyssavirus screenings will be conducted in brain samples with a Lyssavirus pan- reactive cocktail of fluorescent monoclonal antibodies.
- RT-PCR coupled with sequencing analysis will be used to characterize Lyssavirus positive specimens genetically and to conduct the phylogenetic studies.
- RT-PCR coupled with sequencing analysis will be used to screen and characterize coronaviruses from bat fecal samples.
- Modeling
- GPS collection data together with sequence data and abiotic variables will be used to construct predictive models for disease occurrence for both Coronaviruses and Lyssaviruses.

7. Technical Schedule

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Person*days
Task 1	Quarterly report Ordering supplies	Quarterly report Samples arrangement	Quarterly report Design documentation	Annual Report	Quarterly report	Final report	
Person*days	107	95	95	95	0	65	457
Task 2	Quarterly report Sops Ordering supplies	Quarterly report Lyssavirus DFA testing	Quarterly report PCR for Lyssavirus	Annual Report Sequencing	Quarterly report Entry Data analyzes	Final report	
Person*days	68	52	68	25	74	77	364
Task 3	Quarterly report Design documentation ordering supplies	Quarterly report sops	Quarterly report Design documentation	Annual Report PCR coronavirus	Quarterly report Coronavirus Sequencing	Final report Data analyzes	
Person*days	45	77	42	95	95	44	398
Task 4	Quarterly report	Quarterly report Data analyzes	Quarterly report Data analyzes	Annual report Data analyzes	Quarterly report	Final report Comparison obtained results with different	
Person*days	23	67	67	67	25	77	326
TOTAL	243	291	272	282	194	263	1545

3-24-23

8. Personnel Commitments

8.1. Individual participants

Leading Institution: NCDC

Category 1 (weapon scientific and technical personnel)

Name	Birth Year	Scientific Title	Weapon Expertise Ref.	Function in project	Daily rate (US\$)	Total days	Total grants (US\$)
Kutateladze Tamar	1955	PhD	3	Scientific Leader	45	132	5,940.00
Innadze Paata	1953	PhD	3	Lead expert	50	33	1,650.00
Tushishvili Ciuri	1962	MS	3	Epidemiologist	35	144	5,040.00
Sabadze Lela	1968	MS	3	Virologist	35	156	5,460.00
Kandaurov Andrey	1945	MS	3	Expert Zoologist	35	120	4,200.00
Mirckhlava Merab	1958	PhD	3	Data Analyze	40	120	4,800.00
Kakhadze Vardo	1957	MS	3	Bat Sampling	35	132	4,620.00
Total:					837		31,710.00

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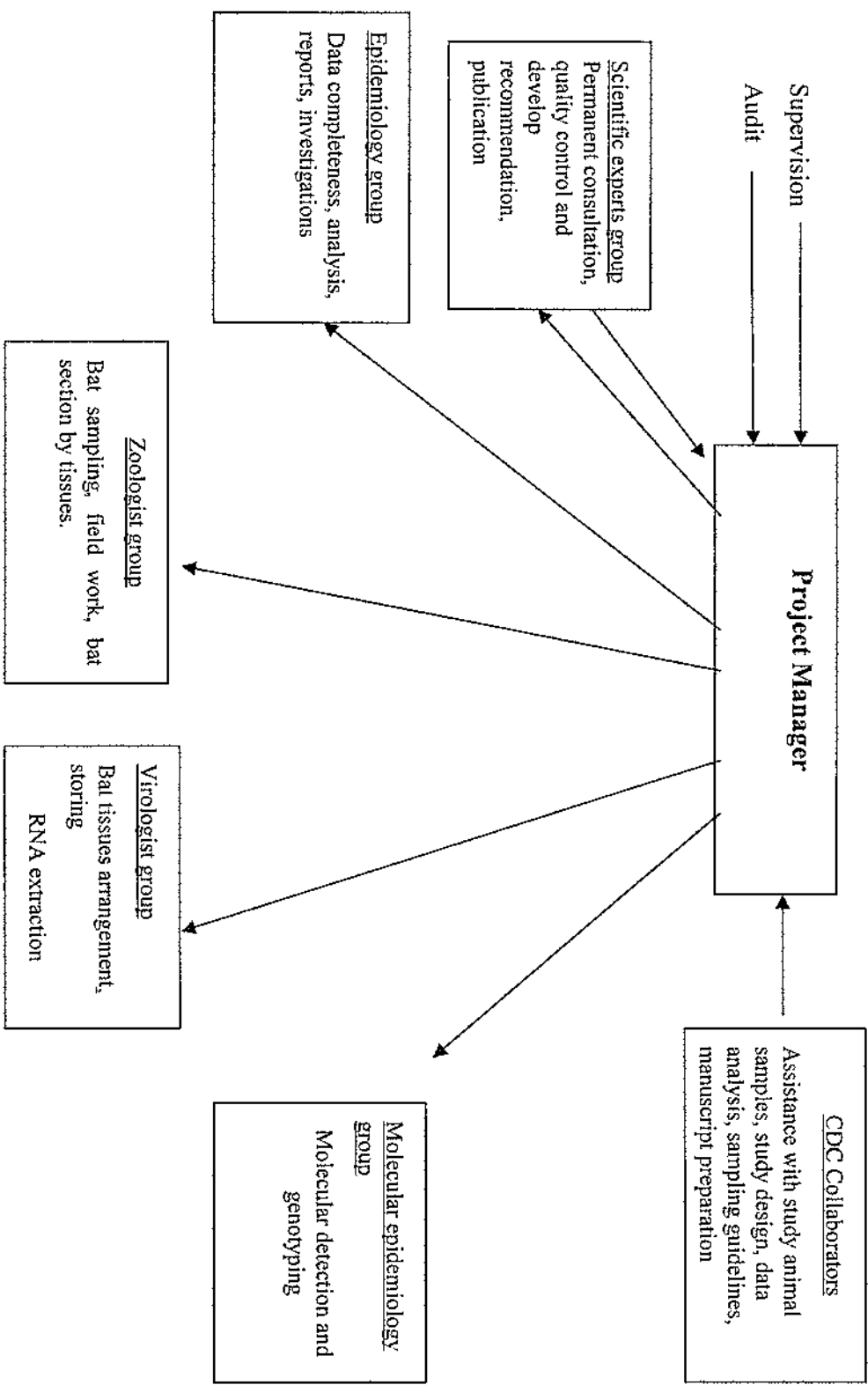
Category II (other scientific and technical personnel)

Name	Birth Year	Scientific Title	Function in project	Daily rate (US\$)	Total days	Total grants (US\$)
Urushadze Lela	1973	Ms	Project manager	50	228	11,400.00
Machabishvili Ana	1978	MD	Group Leader	35	156	5,460.00
Babuaдзе Giorgi	1981	MS	Molecular epidemiologist	35	108	3,780.00
Dgebuadze Magda	1977	MD	Virologist	30	120	3,600.00
Putkaradze Davit	1986	MD	Zoologist	30	96	2,880.00
Total:					708	27,120.00

no. 1/11/13

8.2. *Managerial responsibilities*

The Project Manager will integrate scientific input from staff at NCDC and collaborators at U.S. CDC Atlanta. The Project Manager will oversee principle groups of working epidemiologist, basic research laboratories, and zoologists. A guiding principle of management in this project will be ongoing, regular communication between these groups to facilitate communication and reinforcement of project objectives.



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9. Financial Information

TABLE 1

Estimated Aggregated Expenditures by Recipient

Category	Quarters 1 & 2		Year 1		Year 2		Total	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1 Grant Payments:								
1.1 Category I		10,570.00		21,140.00		10,570.00		31,710.00
1.2 Category II		9,040.00		18,080.00		9,040.00		27,120.00
1.3 Category III								
1.4 Category IV								
<i>Total Grant Payments</i>		19,610.00		39,220.00		19,610.00		58,830.00
2 Equipment:								
2.1 Capital Equipment								
2.2 Non-Capital Equipment								
<i>Total Equipment</i>								
3 Materials/Supplies	1,500.00	21,300.00	1,500.00	21,300.00	0.00	0.00	1,500.00	21,300.00
4 Bank Fees	15.00	400.00	19.00	550.00	1.00	230.00	20.00	780.00
5 Other Direct Costs:								
5.1 Technological Energy			200.00		100.00		300.00	
5.2 Communications	100.00							1500.00
5.3 Subcontracts/Seminars		1500.00		1500.00			100.00	
5.4 Logistics/Customs	50.00		100.00				400.00	
5.5 Other								
<i>Total ODC</i>	150.00	1500.00	300.00	1500.00	100.00			1,500.00
6 Travel:								
6.1 Internal ***	720.00		720.00				720.00	
6.2 Outside CIS				4000.00		8000.00		12,000.00
<i>Total Travel</i>	720.00		720.00	4000.00		8000.00	720.00	12,000.00
Overhead/Retainage							2,950.00	
<i>Subtotals</i>	2,385.00	42,810.00	2,539.00	66,570.00	101.00	27,340.00	5,590.00	94,410.00
Totals	45,195.00		69,109.00		27,941.00		100,000.00	

10. Equipment and Materials Summary

10.2. Materials Summary

TABLE 3

EQUIPMENT/MATERIAL SUMMARY	
MATERIAL SUMMARY for Project Agreement #G-2101 To be provided in kind [X] To be purchased by recipient []	
The ISTC will normally provide the most appropriate equipment that will perform the functions required; however, if very special reasons are given and explained in detail (Form PR-2E), the purchase of a particular make will be considered. Please list items in the order of their priority and put an 'X' in the column next to "Item no." if ISTC Form PR-2E, "Data for a Single Equipment Item", has been completed for a given item and is attached.	

Item No.	DESCRIPTION OF ITEM	Date needed (quarter)	Qty	Unit cost (USD)	Amount (USD)
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Leading Institution: NCDC

1	Superscript III One-Step RT-PCR system with platinum Tag DNA polymerase, 100 rxn , Invitrogen Cat# 12574-026	1	1	1,800.00	1,800.00
2	10 mM dNTP Mix, PCR Grade, 1ml, 18427-088, Invitrogen Invitrogen, Cat# 18427-088	1	2	300.00	600.00
3	SYBR Green I, Roche, Cat# 03064760001	1	2	350.00	700.00
3	Primer oligos, 100 nmole, Primers for PCR and sequencing. IDT, cat N/A http://eu.idtdna.com	1	50	20.00	1000.00
4	Fluorescent primer oligos, 100 nmole Primers for real time PCR, IDT, cat N/A http://eu.idtdna.com	1	5	200.00	1000.00
5	BigDye® Terminator v3.1 Cycle Sequencing Kit, 100 rxn Cat# ABI, 4337455	1	3	1000.00	3,000.00
6	Applied Biosystems ABI PRISM 96-Well Optical Reaction Plates and MicroAmp Optical Caps, 20 Plates Cat#ABI, 403012	1	2	200.00	400.00
7	310 and 31xx Running Buffer, 10X Cat# ABI, 4335613	1	1	100.00	100.00
8	Nitrile gloves powder free; size S Genskin Cat#EF77321	1	5	100.00	500.00

TABLE 3-1

Form PR-1M of 3/9

9	PCR plates, Low profile unsorted 96 well PCR plate, For Biorad CFX 96, pk of 100, BIORAD, Cat#MLL9651	1	5	200.00	1000.00
10	PCR plate sealing film, Adhesive, optically transparent PCR plate sealing film, pk of 100, BIORAD, Cat#MSB-1001	1	1	130.00	130.00
11	10 µL filter tips, for 05-10 µL Socorex pipettes; sterile, 96 tips per tray, pk of 10, ART Cat#EF4505	1	8	130.00	1040.00
12	100 µL filter tips, for 10-100 µL Socorex pipettes; sterile, 96 tips per tray, pk of 10, ART, Cat#20281	1	8	130.00	1040.00
13	200 µL filter tips, for 20-100 µL Socorex pipettes; sterile, 96 tips per tray, pk of 10, ART, Cat#EF2029	1	8	130.00	1040.00
14	1000 µL filter tips, for 500-1000 µL Socorex pipettes; sterile, 96 tips per tray, pk of 10, ART, Cat#EF3691	1	8	130.00	1040.00
15	One step RT-PCR kit, Qiagen (1000) Cat. # 210215	1	1	1200.00	1200.00
16	Alternative Primers for phylogenetic analysis (RdRp gene primers), IDT, Cat N/A http://eu.idtdna.com	1	1	300.00	300.00
17	Primers for phylogenetic analysis (RdRp gene primers) IDT, Cat N/A http://eu.idtdna.com	1	1	300.00	300.00
18	Pan-coronavirus primers, IDT, Cat N/A http://eu.idtdna.com	1	1	300.00	300.00
19	QIA quick PCR Purification Kit, QIA Cat. # (28106)	1	1	530.00	530.00
20	Rabies DFA reagent, Light diagnostics Cat#(5100)	1	1	550.00	550.00
21	DFAIII Light diagnostic Cat#6500	1	1	550.00	550.00
22	DFAI Light diagnostic Cat#5500	1	1	550.00	550.00
23	QIAamp Viral RNA Mini Kit (250) QIAGEN, Cat# 52906	1	1	1,500.00	1,500.00
24	RNase Inhibitor, 2000 U, N8080119, Invitrogen, Cat#N8080119	1	1	300.00	300.00
25	POP-7™ Polymer for 3130/3130xl Genetic Analyzers ABI, Cat# 4363929	1	1	830.00	830.00
Subtotal:				21,300.00	21,300.00
Estimated TOTAL COST:				21,300.00	21,300.00

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OTHER DIRECT COSTS SUMMARY	
for Project Agreement #G-2101	
To be provided in kind [X]	
To be purchased by recipient []	
OTHER DIRECT COSTS SUMMARY	

TABLE 4

10.4. Other Direct Costs Summary

Form PR-1M of 3/98

Item No.	DESCRIPTION OF ITEM	Date needed (quarter)	Qty	Unit cost (USD)	Amount (USD)
1	Hand net, with aluminum handle	1	1	44.00	44.00
2	Stainless steel scissors with sharp tip 14sm	1	6	15.00	90.00
3	Forceps	1	6	15.00	90.00
4	Cotton Bat Holding Bag	1	300	1.7	510.00
5	Rain boots	1	6	15.00	90.00
6	Rain coat	1	6	20.00	120.00
7	Helmet	1	4	50.00	200.00
8	Leather gloves	1	6	10.00	60.00
9	Bats Banding Pliers	1	2	50.00	100.00
10	Bats wings ring	1	280	0.7	196.00
Subtotal:					1,500.00
Estimated TOTAL COST:					1,500.00

Leading Institution: NCDC

Please list items in the order of their priority and put an 'X' in the column next to "Item no." if ISTC form PR-2E, "Data for a Single Equipment Item", has been completed for a given item and is attached.

The ISTC will normally provide the most appropriate equipment that will perform the functions required; however, if very special reasons are given and explained in detail (Form PR-2E), the purchase of a particular make will be considered.

MATERIAL SUMMARY	
for Project Agreement #G-2101	
To be provided in kind []	
To be purchased by recipient [X]	
EQUIPMENT/MATERIAL SUMMARY	

4669.2

2/3

Form PR-10D of 3/04

Detailed breakdown of Other Directs Costs to include planned activities under items 5.1, 5.2, 5.3, 5.4, 5.5 from Table I of the Project Agreement						
Item No.	DESCRIPTION OF ITEM			Date needed (quarter)	Qty	Unit cost (USD)
Leading Institution: NCDC						
4	5.4	Logistics/Customs			1	1500.00
Subtotal:						1500.00
Estimated TOTAL COST:						1500.00

TABLE 4-1

Wright

General Conditions

ANNEX II



Contents:

Part A	-	Implementation of the Work
Article 1	-	General Provisions
Article 2	-	Subcontracting
Article 3	-	Monitoring of the Work
Article 4	-	Reports
Article 5	-	Completion or Expiration of the Agreement
Part B	-	Payments
Article 6	-	Payments by the Center to the Recipient
Part C	-	Allowable Costs
Article 7	-	Accounting Principles, Allowable Costs and Transfer of Costs
Article 8	-	Direct Costs
Article 9	-	Overhead
Article 10	-	Costs not Allowed
Part D	-	Justification of Cost and Auditing
Article 11	-	Books of Account and Documentation
Article 12	-	Auditing
Part E	-	Information and Intellectual Property
Article 13	-	Definitions
Article 14	-	Promotion of Technology and Project Results
Article 15	-	Ownership
Article 16	-	Protection and Exploitation
Article 17	-	Reporting of Inventions
Article 18	-	Background Results
Article 19	-	Conflicting Agreements, Laws and Regulations

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Part A - Implementation of the Work
Article 1 - General Provisions

1.1 The Recipient shall make best efforts to achieve the objectives of the Project and shall comply with all laws of the Republic of Georgia applicable to the Project. If in the course of project implementation deliverables are identified that may qualify under export control restrictions, the Recipient takes responsibility for obtaining the corresponding export licenses, in a timely fashion and operating in compliance with all Russian, CIS and international laws and regulations.

1.2 The Recipient shall, in particular, comply with all applicable laws and regulations related to safety.

1.3 The Recipient shall notify the Center's Project representative and the Partner without delay of:
(a) any event or circumstance which may materially affect the Project, and
(b) any proposal for significant changes of key personnel during the Project.

Article 2 - Subcontracting

2.1 Subcontracting shall require the advance written approval of the Center, with the concurrence of the Partner. However, approval shall not normally be given for subcontracting in any State that is not a Party to the ISTC Agreement unless the Center determines in writing that such subcontracting is essential for the Project.

2.2 The Recipient shall impose on a subcontractor the same obligations as apply to itself with respect to any rights of the Center or the Partner concerning the Project.

2.3 The provisions of Article 2.1 of this Annex shall not apply to Sub-Agreements pursuant to Article 3 of the Agreement or to orders for materials, equipment, and services which are incidental to or intended to facilitate the execution of the Agreement and placed in the normal course of business in accordance with the internal procedures and rules of the Recipient.

Article 3 - Monitoring of the Work

3.1 The Center shall:

(a) Have access to portions of facilities where the Project is being carried out and to all equipment, documentation, information, data systems, materials, supplies, personnel and services which concern the Project for monitoring the progress of the Project as described in Annex I;

(b) Be provided with technical and cost information concerning the management and progress of the Project requested at any time; and

(c) Give the Recipient not less than 20 days advance notice of any intended on-site financial auditing or technical monitoring of the Project.

3.2 The Recipient has the right to protect those portions of facilities that are not related to the Project.

3.3 After completion or termination of the Project, the Recipient may utilize the facility or portion of the facility previously used for the Project for other work. However, all documentation and records including those associated with equipment, data systems, materials, supplies and services utilized for the Project must be maintained and available for review by the Center for up to two years following the Project's completion or termination.

3.4 The Recipient shall, if requested by the Center, participate and assist in meetings to review or evaluate the Project during the lifetime of the Project.

Article 4 - Reports

4.1 The Recipient shall submit the following reports, in a suitable quality to enable direct reproduction, to the Center and the Partner for approval:

(a) A final report, in English and Russian, covering all the work, the objectives, the results and the conclusions, including a suitable summary of all these aspects; and
(b) Reports, as mutually agreed, prepared in a suitable form for publication and satisfactory to the Partner and the Center.

4.2 The Recipient shall submit any additional reports or any other deliverables specified in the Agreement.

4.3 The Recipient should clearly identify any reports or portions of reports that contain invention or business confidential information as defined in Part E of this Annex. The final report shall include a statement that all inventions Made during the performance of work under the Agreement have been reported to the Center and to the Partner, or if no inventions were Made, a statement to that effect. The Recipient also may include a suitable disclaimer in any report against possible claims by third parties.

Article 5 - Completion or Expiration of the Agreement

5.1 The Agreement shall be deemed to be completed on the approval by the Center and the Partner of the last deliverable required or last payment by the Center, whichever shall be the later.

5.2 Subject and without prejudice to the provisions in Part D of this Annex, the Recipient shall be deemed to have discharged its obligations with respect to the performance of the work after the approval of all the reports and any other deliverables required by the Agreement.

Part B - Payments

Article 6 - Payments by the Center to the Recipient

Payments of allowable costs other than the Center's in-kind contributions, the Center's grant payments to Individual Participants and overhead payments shall be made in accordance with the following principles.

6.1 Cost statements shall be expressed in US dollars unless otherwise specified in the Agreement. All payments by the Center shall be made in that currency unless otherwise agreed.

6.2 The financial contribution by the Partner through the Center shall be paid in installments as specified in Article 5 of the Agreement.

6.3 If the Center or the Partner considers that the work has not effectively been commenced within three months of the payment of the first advance, the Center may require the reimbursement of the advance together with any interest earned on the advance. Any reimbursements will be returned to the Partner account.

6.4 If on completion, cessation, or termination of the work, the payments made by the Center exceed the actual allowable costs, the Recipient shall promptly reimburse the difference to the Center. Interest may be added to this amount at the prevailing market rate as determined by the Center one month after the reimbursement date specified by the Center. Any reimbursements will be returned to the Partner account.

6.5 Subject to Article 12 of this Annex, periodic payments made against cost statements shall be considered as advances until acceptance of the appropriate deliverables, in accordance with Annex I, or, if no deliverables are specified, until acceptance of the final report.

Part C - Allowable Costs
Article 7 - Accounting Principles, Allowable Costs, and Transfer of Costs

7.1 The original estimates of expenditures set forth in Annex I may be adjusted by the Recipient between categories without the prior approval of the Center, except for reductions in personnel costs and increases in travel costs, and provided that the transfers do not fundamentally affect the scope or content of the Project.

7.2 The Recipient shall ensure that no unnecessary cost or unnecessarily high or extravagant cost is charged to the Agreement.

Article 8 - Direct Costs

8.1 Personnel

8.1.1 Personnel costs shall be separated into four categories as described in Annex I and reflected in the reporting form in Annex III. Even though some or all of these costs may be reimbursed by the Center through direct grant payments to the Individual Participants, the Recipient is responsible for certifying the time devoted to the Project by the Individual Participants and for maintaining necessary documentation to support such certification.

8.1.2 Personnel costs shall be charged to reflect the actual eight-hour days, or one-half days when appropriate, worked by personnel assigned by the Recipient to the Project in accordance with Annex I. Work periods of less than four hours may not be charged.

8.1.3 Personnel costs for a specific period of time may not be charged to this Project if reimbursement (except regular employment salary) is being received from other sources for the same period of time.

8.1.4 The Project Manager may increase or decrease the time commitments of personnel by up to 10 percent during one year of any individual without approval of the Center, but may not change the daily rate without approval by the Center. The Project Manager may request more significant changes in the personnel commitments, including changes in the names of the personnel, at the beginning of each quarter with a brief explanation of the reasons for the changes. In unusual situations, the Project Manager may request changes during the quarter. The Center, in consultation with the Partner, will respond promptly to such requests. Changes in scientific personnel must provide for the new participants to have technical credentials and weapons experience comparable to those of the personnel they replace.

8.1.5 The Center will not reimburse personnel costs associated with holidays, annual vacations, overtime, or sick leave. Such additional costs, if any, are the responsibility of the Recipient.

8.1.6 The Project Manager shall ensure that the scheduling of annual leave by the Individual Participants does not interfere with accomplishment of the Work Plan in Annex I.

8.1.7 The Recipient is responsible for any medical expenses or compensation claims for injuries or other losses for personnel working on the Project which are directly or indirectly related to the Project.

8.1.8 Individual daily records of time devoted to the Project must be signed by all personnel assigned to the Project, and all records must be certified at least monthly by the Project Manager and for the Project Manager by another appropriate senior employee of the Recipient.

8.2 Equipment

8.2.1 Equipment shall be categorized as indicated in the reporting form in Annex III.

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The payment shall not exceed 10% of the direct Project costs, excluding equipment, travel and subsistence.

A fixed payment may be charged with respect to overhead which covers items such as general administration, institutional management, depreciation of buildings and general equipment, maintenance of building and grounds, telephones, heating, lighting, electricity for the buildings and general staff training.

Article 9 - Overhead

8.6.2 Should the Recipient enter into a sub-agreement with a scientific institution pursuant to Article 3 of the Agreement, the reporting form in Annex III shall include the costs incurred pursuant to the sub-agreement which shall be supported by detailed information.

8.6.1 Subject to Article 2 of this Annex, costs of subcontracts shall be allowable costs and shall be included as discrete entries in the appropriate categories on the reporting form of Annex III. If the subcontractor is a scientific institution engaged in a sub-agreement pursuant to Article 3 of the Agreement, costs are allowable only to the extent that they would be allowable if incurred directly under the Agreement. In selecting a subcontractor other than a scientific institution pursuant to Article 3 of the Agreement, the Recipient shall compare prices and quality of several subcontractors and choose the most cost-effective offer. For any subcontract costing more than the equivalent of \$25,000, the Recipient shall organize a bidding process. For any subcontract costing between \$10,000 and \$25,000 (equivalent) written quotations shall be obtained from three sources to the extent possible.

8.6 Sub-Agreements and Subcontracts

Travel and per diem within the CIS shall be charged in accordance with the internal rules of the Recipient which are subject to approval by the Center. International travel shall be provided by the Center in accordance with Article 4 of the Agreement.

8.5 Travel and Per Diem for the Recipient

8.4.2 Costs incurred by the Recipient in using its internal resources for performance of the Agreement such as costs associated with (a) testing facilities, (b) computer services, (c) special test equipment, (d) dedicated security services, and (e) dedicated accounting services, but excluding items covered by Article 9 of Annex II, may be charged as direct costs through valid cost allocation formulas approved by the Center to the extent such costs contribute to the Project, provided such facilities and services are open to access for monitoring and auditing in accordance with Article 9 of the Agreement. If costs incurred by the Recipient are not charged as direct costs, they may be presented as in-kind contributions of the Recipient.

8.4.1 Other direct costs shall be categorized as indicated in the reporting form in Annex III.

8.4 Other Direct Costs

The costs of required materials shall be allowable costs. They shall be categorized as raw materials, laboratory supplies, safety devices and protective gear and other as indicated on the reporting form in Annex III.

8.3 Materials

8.2.2 The cost of equipment used in the Project which is purchased, fabricated, or leased after the Operative Commencement Date may be charged as a direct cost. The total leasing cost of any piece of equipment shall not exceed the cost which would have been allowable for its purchase.

8.2.3 Notwithstanding Article 4.5.1 of the Agreement, the Center will retain the title to all the equipment provided to or procured by the Recipient using Center funds regardless of the acquisition per item cost of the equipment. The final decision of possible transfer of the title shall be taken by the Center, in consultation with the Financing Party by the time of completion, termination or cessation of the Project taking into account the specific legal, institutional and other factors in effect in the state of the Recipient at that time.

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Since the overhead will be retained by the Center until acceptance of the final report, the Recipient need not include this item on the reporting form in Annex III.



Article 10 - Costs Not Allowed

Allowable costs shall not include, among others:

- any profit;
 - any contributions to pension, medical, or other social funds;
 - any provisions for possible future losses or liabilities;
 - any taxes, including profit tax, value added tax, personal income tax, and local taxes, as well as any other tariffs, dues, custom duties, import duties, fees, or other imposed taxes or similar charges;
 - any costs allocatable to other projects.
- The Center will determine the use of any interest earned from funds provided by the Center or return on investment of such funds. Such interest or return on investment must be reported to the Center.

Part D - Justification of Costs and Auditing

Article 11 - Books of Account and Documentation

The Recipient shall maintain, in accordance with the accounting practices set forth in the Agreement, proper books of account and appropriate documentation, such as invoices and time sheets to support and justify the costs reported. These shall be made available for audits by the Center during the period of the Project and for a period of up to two years following the Project's completion or termination.

Article 12 - Auditing

12.1 Cost statements are subject to verification even after the Center has reimbursed costs. The Center has the right pursuant to the ISTC Agreement and ISTC Statute to carry out on-site auditing of all activities of the Project. The Recipient will be given not less than 20 days notice of any intended audit. For the purposes of the audit, the Recipient shall make accessible all portions of facilities, equipment, documentation, information, data systems, materials, supplies, personnel and services related to the Project.

12.2 The Recipient has the right to protect those portions of facilities that are not related to the Project.

12.3 The Recipient shall maintain all documentation and records including those associated with equipment, data systems, materials, supplies and services utilized for the Project and shall make such documents, records and, to the extent possible, personnel available for auditing for a period of up to two years following the Project's completion or termination.

12.4 The Center shall have the right to select Courts of Auditors or other organizations or individuals to carry out audits of the Project; they shall be entitled to the same rights, should they choose to exercise them, as the Center with respect to access to, and verification of, any document under the Agreement for the purpose of any audit.

Part E - Information and Intellectual Property

Article 13 - Definitions

13.1 "Intellectual Property" includes inventions, patents, copyrights and other forms of protection provided by statutes, such as, industrial designs, design patents, mask works, and trademarks, and has the meaning defined in Article 2 of the Convention Establishing the World Intellectual Property Organization, done in Stockholm on July 14, 1967, which states: "Intellectual Property shall include the rights relating to:

- literary, artistic and scientific works,
- performances of performing artists, phonograms, and broadcasts,
- inventions in all fields of human endeavor,
- scientific discoveries,
- industrial designs,
- trademarks, service marks, and commercial names and designations,

- protection against unfair competition,
- and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields."

13.2 "Information" includes technical data and computer software and means recorded data of any kind of a scientific or technical nature, regardless of the form or method of recording, and capable of being read by a human being or processed by a machine.

13.3 "Foreground Results" means Foreground Information and Foreground Intellectual Property.

13.4 "Foreground Information" means Information, including all kinds of results, generated in the execution of this Agreement.

13.5 "Foreground Intellectual Property" means rights in Intellectual Property generated in the execution of this Agreement by the Recipient or any person employed or engaged by the Recipient.

13.6 "Background Results" means Background Information and Background Intellectual Property.

13.7 "Background Information" means Information, excluding Foreground Information, owned or controlled by either the Recipient or Partner in the same or related fields as the research under this Agreement.

13.8 "Background Intellectual Property" means rights in Intellectual Property, excluding Foreground Intellectual Property, owned or controlled by either the Recipient or Partner in the same or related fields as the research executed under this Agreement and originating outside this Agreement.

13.9 "Business Confidential Information" is also known as trade secret information and means technical, commercial or financial information, which:

- Has been held in confidence by its owner;
- Is not generally known or available from other sources;
- Has not been made available by its owner to other parties without an obligation concerning its confidentiality;
- Has not been independently developed by the receiving party; and
- Is not available to the receiving party without obligations concerning confidentiality.

13.10 "Invention Information" is Intellectual Property which is to be protected by a patent and on which a patent has not been filed.

13.11 "Made," when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

13.12 "Unlimited rights" means the right to use, modify, reproduce, perform, display, release, or disclose information in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

Article 14 - Promotion of Technology and Project Results

Confidentiality

14.1 Subject to Article 4.1(c), all reports or portions of reports properly marked as Invention Information or Business Confidential Information by the Recipient in consultation with the Partner shall be protected from public dissemination unless otherwise agreed by the Recipient and the Partner. Invention Information is treated as Business Confidential Information until a patent application has been obtained unless such information so disclosed is or becomes legitimately available to the receiving Signatory Party through other means or sources

without any covenant as regards its confidentiality. Nevertheless, Business Confidential Information may be disclosed if the disclosure is required by law, regulation, or court order.

14.2 Subject to any obligations under this Agreement and in accordance with applicable laws and regulations, the Signatory Parties agree to keep confidential any Invention Information or Business Confidential Information communicated to them by other Signatory Parties or third parties in relation to the execution of this Agreement, unless such information so disclosed is or becomes legitimately available to the receiving Signatory Party through other means or sources without any covenant as regards its confidentiality. Nevertheless, Business Confidential Information may be disclosed if the disclosure is required by law, regulation, or court order.

Technology Promotion

14.3 The ISTC shall be entitled to publish general information on this Agreement including the identities of the Recipient and Partner, the title and objective of the Agreement, its estimated costs and duration, and the names of managers and laboratories where the research is being carried out.

14.4 Each Signatory Party agrees to submit to each other Signatory Party for review and approval a copy of any proposed publication of Foreground Information at least thirty days before such publication.

14.5 Any public communication or publication concerning this Project will acknowledge the Recipient, the Partner and the cooperative support of the ISTC.

14.6 Subject to the restrictions of Article 14.1, each Party to the ISTC Agreement (hereinafter referred to as the "ISTC Party") and the ISTC have a non-exclusive, irrevocable, royalty-free license with the right to sub-license in all countries to translate, reproduce and publicly distribute scientific and technical journal articles, reports, and books directly arising under this Agreement. All publicly distributed copies of a copyrighted work arising from cooperation under this Agreement shall indicate the names of the authors of the work, unless an author explicitly declines to be named.

Article 15 – Ownership of Intellectual Property and Foreground Information

15.1 In accordance with the ISTC Statute, except for inventions created by United States Government employees, all rights worldwide to Intellectual Property arising under this Agreement, including patent protection for industrial property, belong to the Recipient (or its designee), which has the responsibility for providing adequate protection of such Intellectual Property. The Recipient and the Partner have agreed to protect and allocate such Intellectual Property among each other as specified in Article 16 below. Rights to inventions made by United States Government employees or made in Partner's laboratory shall be determined by the United States.

15.2 All rights worldwide to Foreground Information arising under this Agreement belong to the Recipient (or its designee). The United States Government, as represented by Partner, is granted a non-exclusive, irrevocable, royalty-free, worldwide license of unlimited rights in Foreground Information.

Article 16 - Protection and Exploitation

16.1 Intellectual Property Rights (IPR) Allocation

- (i) The work conducted under this project is expected to generate new intellectual property by the Recipient and the Partner;
- (ii) The protection and allocation of intellectual property created or furnished in the course of the cooperative research activities pursuant to this Agreement shall be provided in accordance with the Articles 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9 of the Annex II.
- (iii) Any publications or presentations of information developed by the project participants shall acknowledge their funding support and shall be cleared by the institutions involved according with the existing procedures. Joint work is expected to result in joint authorship of publications.
- (iv) The development of any new commercial products and commercialization of results are not expected to be the issue during the term of the project

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- (v) However if this proves otherwise, the Recipient and its Partner agree to notify one another as well as other Parties of the Agreement in a timely fashion or copyrighted works arising under this Project and to seek protection for such intellectual property in a timely fashion.
- (vi) The Recipient and the Partner shall be responsible for the maintenance, protection and preservation of all intellectual property during the term of the project

16.2 Ownership and Non-exclusive License: With the exception of inventions made by employees of the United States Government, the Recipient owns worldwide rights to Intellectual Property arising under this Agreement. The United States Government shall determine the rights in inventions made by United States Government employees or made in U.S. Government facilities. The United States Government, as represented by partner, is granted in all Intellectual Property arising under this Agreement a non-exclusive, irrevocable, royalty-free, worldwide (except for the territory of the United States) license to practice or have practiced for or on behalf of the United States. Upon the request of the Partner (or its designee), the Recipient entity (or its designee) shall enter into negotiation with United States commercial entities for licenses for commercial purposes on fair and reasonable terms in territories other than the United States in all Intellectual Property arising under this Agreement.

16.3 Commercialization in the United States: Upon request by Partner, the Recipient shall assign to the Government of the United States as represented by Partner, subject to a royalty-free, irrevocable non-exclusive license to the recipient, the entire right, title, and interest in any Intellectual Property in the United States, including inventions, patents on inventions, and copyrights arising under the Agreement. The Government of the United States will obtain and pay for all costs of obtaining patent protection in the United States on those inventions that the Recipient and Partner mutually agree to obtain patent protection in the United States (See Article 16.6). All uses of the Intellectual Property by or for the Government of the United States are royalty free. When the Government of the United States as represented by Partner or Partner's designee, negotiates and executes a license for commercial purposes to use Intellectual Property within the territory of the United States, which are purposes other than those by or for the Government, compensation will be sought for all uses of the Intellectual Property.

16.4 Compensation for inventors: In accordance with the policies of the Partner, which provide that the inventive entity shall receive at least 15% of royalties received, the inventors will receive a portion of the royalty income. The remaining royalties will be applied to cover or offset expenses incurred in obtaining and maintaining patent protection, and any remaining royalty income, after paying patent expenses, will be shared equally between the Recipient and Partner. However, the inventor, or inventors as a group, will always receive at least 15% of the total royalties received each year in accordance with the policies of the Partner.

16.5 Disclosure of inventions within two months: A written disclosure of invention will be provided by the Recipient (or its designee) to the Partner within two months of the date on which the invention is Made. See Article 17.2

16.6 Election to file patent applications within six months: The Recipient will notify Partner within six months of reporting an invention of each territory, except for the territory of the United States, in which the Recipient elects to protect the invention through patenting. In the territory of the United States, election to file will be by mutual agreement of the Recipient and Partner, and if the parties are unable to agree within eight months of reporting an invention and the Partner has not requested assignment under 16.3, either the Recipient or Partner may elect, by notifying the other party, to obtain patent protection in the United States and the party electing to file will pay all patent costs and will not share royalties with the Party not electing to file. If the Recipient files for a patent in the United States, the Government of the United States, as represented by Partner, shall have a non-exclusive, irrevocable, royalty-free license to practice or have practiced for or on behalf of the United States. See Articles 16.3 for patent costs and 17.3.

16.7 Filing of patent applications: The Recipient will file the first patent application within twelve months of reporting the invention. Partner has right to file patent applications in the countries in which the Recipient does not elect to file. If the Recipient does not elect to file within eight months of the date on which the invention is Made, the Partner may file applications in all countries in which the Recipient does not elect to file, and the Recipient

will assign title to the invention to the Partner in those countries in which the Partner has filed. The Recipient will retain a non-exclusive irrevocable, royalty free license in the territory where the Partner has filed. See Article 17.3

16.8 Exploitation of Results: The Technology Implementation Plan required by Article 8.2 of the Project Agreement shall contain a listing of all inventions Made under the Agreement, the status of pending patent applications, or patent numbers, licenses granted and in negotiation, and relate the commercial results of the research performed under the Agreement with the anticipated commercial results and intellectual property rights described in the proposal submitted for the Agreement.

16.9 The Recipient will grant to the United States Government, as represented by Partner, under reasonable terms and conditions the right to use by or for the Government Background Results owned by the Recipient which are necessary for the Partner to exploit Foreground Results, provided that the Recipient is free to disclose such Background Results, that no major business interests of the Recipient oppose the granting of such right, that in making this opposition such interests are not abusively restricting the exploitation of such right and that granting such right is not restricted by the law or obligations to a third party. The Recipient will notify the Partner, with factual statements in the next monthly technical report, of all situations where: the Recipient is not free to disclose such Background Results; or a major business interest opposes the granting of such right to such Background Results; or the disclosure of such Background Results is restricted by law or obligations to a third party.

Article 17 - Reporting of Inventions

17.1 The Recipient will disclose to the Partner and the ISTC in an ISTC-approved form every invention Made under this Agreement within two (2) months of the date on which such invention is Made. These disclosures must be in sufficiently complete technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose and operation of the invention.

17.2 The Recipient and the Partner will notify the ISTC of each territory in which each (or their designees) decides to protect inventions through patenting within six (6) months of the reporting of such inventions in accordance with Article 17.1 above.

17.3 The Recipient and the Partner will file patent applications in each territory in which each (or its designee) decides in accordance with Article 17.2 above to protect each invention through patenting. The first patent application will be filed in the territory where the invention was Made within twelve (12) months of reporting the invention in accordance with Article 17.1 above. The remaining patent applications will be filed in the other territories within respective time periods to ensure that the priority date of the first patent application is obtained for these later filed applications. The Recipient and the Partner will provide each other and the ISTC with copies of all patent applications each (or its designee) files.

Article 18 - Background Results

The Recipient and the Partner have identified and agreed that the following Background Results may be used in the performance of work under this Agreement and may be needed to practice any Foreground Results of this Agreement:

Recipient's Background Results: none.

Partner's Background Results: none.

Recipient and Partner represent that the above-identified Background Results are available for licensing as of the effective date of this Agreement.

Article 19 - Conflicting Agreements, Laws and Regulations

19.1 Recipient certifies that it has not and will not enter into any agreement with a third party that grants to the third party rights to Foreground Results that may affect the exploitation or commercialization of Foreground Results received by the Partner under this Agreement.

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19.2 Recipient shall notify the Partner and the ISTC of any restrictions by government laws or regulations which may materially and adversely affect the rights necessary for the performance of the work or the exploitation and commercialization of Foreground Results.

ANNEX III

Formats for Progress and Cost Reports

I. Format for Technical Reports

Quarterly reports shall specify the progress, any actual or proposed deviations and modifications to the Work Plan in Annex I, and the results obtained. The reports shall contain sufficient information to enable assessment of the progress and cooperation within the Project. The details of the Annual Report shall be agreed upon at an appropriate time by the Recipient and the Center's Project representative. A suggested format for quarterly reports is as follows:

- I. Summary of Technical Progress (By task in the Work Plan)
- II. Milestones Completed
- III. Summary of Personnel Commitments
- IV. Major Equipment Acquired
- V. Description of Significant Travel
- VI. Current Technical Status (on schedule, behind schedule, ahead of schedule)
- VII. Delays, Problems, Suggestions
- VIII. IPR Annex

The quarterly report should be between three and five pages (single space).

2. Financial Forms

(The templates for reports are to be provided separately by the Center.)

3. Submission Dates for Technical and Financial Reports:

Technical and Financial reports are due two weeks after the end of each fiscal year quarter:
March 15
June 15
September 15
December 15

Additional time (two weeks) shall be granted for reconciliation (adjustments) of end-of-year balances.

**ANNEX IV
DISCLAIMER**

It is understood and agreed to by the Recipient of this ISTC project that:

The project funding commitment of the ISTC is subject to and limited by the funds which are actually available by the ISTC Financing Party(ies) for this project;

The funding for each project comes from ISTC Financing Parties and/or Partners who might make their ISTC financial contribution in whichever currency considered appropriate;

As a matter of practice, the ISTC at present signs all project agreements in a single currency, the US dollar;

The project support given to this project by the ISTC Financing Party(ies) and/or Partners of the ISTC may be affected by causes, including currency fluctuation, which may require adjustments in the project budget.

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