
From: jeffrey E. <jeevacation@gmail.com>
Sent: Wednesday, October 8, 2014 10:33 PM
To: A Barrett
Subject: Re: Confidential: Early detection of Ebola

ill try, also i started the conversatoin with =ark about splitting up the interest, he is open to the idea,=C2♦ but wanted someone smart to advise. that meanss he does't =ant to pay for advice.

On Wed, Oct 8, 2014 at 6:28 PM, A Barrett [REDACTED] <[REDACTED]> wrote:

=i Jeffrey,

Any interest in helping on this. I kno= last time you and Francis did not hit it off. Nevertheless he has been su=cessful as a scientist and is really not a "people' person. ♦=A0

He claims he can develop the tools to diagnose=Ebola before it becomes symtomatic.

Ant=ony Barrett

Begin forwarded message:

<=div>

From: Francis Barany [REDACTED] >>
Date: October 8, 2014 at 6:06:32 PM EDT
To: An=hony Barrett [REDACTED]
Cc: Michael Gargano [REDACTED]
>=br>Subject: Confidential: Early detection of Ebola

</=iv>

Dear Anthony,

I really appreciate your willingness to find a potential pathway to Bi=I Gates and the Gates Foundation.

By way of introduction, I have been a Professor at Weill-Cornell for t=e last 30 years, and am best known for having invented the Ligas= Chain Reaction (LCR) and the Universal Array. I hold 46 issued=US patents, a number of which have led to commercial tests to diagnose genetic diseases (i.e. cystic fibrosis, MLPA tests, =ANSR for NIPD of trisomy), and identify diseases using DNA microarray= and targeted Next-Gen sequencing. Earlier this year, I re=eived the IFCC Award for Significant Contributions in Molecular Diagn=stics.

I have been collaborating with Dr. Linnie Golightly of our Center for =lobal Health/Infectious Disease Division for the past decade, wo=king together closely to develop multiplexed PCR-LDR assays for Categ=ry A

Biothreat agents, including all the major viral hemorrhagic fever viruses (VHF; ebolavirus, marburgvirus Crimean Cong= hemorrhagic fever virus, Lassa fever virus, Rift Valley fever virus, Dengue virus, and Yellow fever virus). (Kindly see b=low abstract of manuscript just being submitted). In addition, =n collaboration with Professor Soper at UNC, we have been building ♦=A0micro-fabricated devices to rapidly detect pathogens.

Most recently, we have begun designing micro-fabricated devices that w=ll allow for electronic detection, obviating the need for expensive hardware used in most fluorescent detection schemes (i.e. Taqman assay). As such, we are poised to combine these technologies for rapidly identifying and providing quantitative viral load for all the VHF, Variola, Malaria or other Category A pathogens directly=from a drop of blood, with the next level of such devices suitable for working in developing countries, and may be powered and run by a cell phone or smart device.

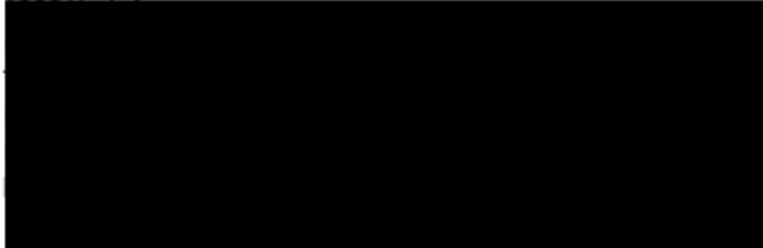
- Current CDC approved EZ1-RT-PCR Taqman assay has LOD of 5,000 PFU/ml. This works when patient is C2♦febrile, i.e. has overt symptoms and may be contagious.
- Next level of assay needs to be > 100-fold more sensitive. We know how to address this issue.
- This would allow for identification of individuals with early viral replication in their blood ♦=80♦before they are contagious, so they may be isolated, and further= early detection may improve outcomes.

Would your contacts be able to help us, so in turn we may help protect=our country?

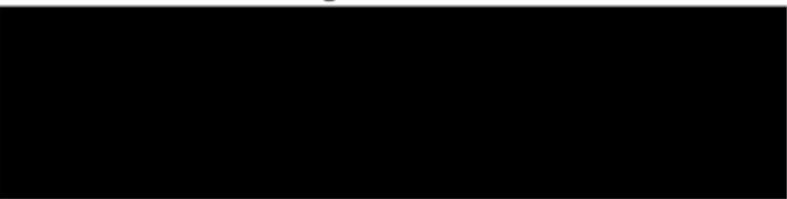
Most appreciated,

Francis & Linnie

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Linnie Golightly, MD
Associate Professor of Clinical Medicine
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Center for Global Health
Division of Infectious Diseases
Weill Cornell Medical College



A Multiplex PCR/LDR Assay for the Simultaneous Identification of =category A Infectious Pathogens: Agents of Viral Hemorrhagic Fever and=Variola Virus

Das S.1, Rundell M.S.2, Mirza A.H.2, Pingle M.R.2, Shigyo K.1, Garriso= A.R.3, Paragas J.4, Smith S. K.5, Olson V. A.5, Larone D.H.2, 6= Spitzer E.D.7, Barany F.2 and Golightly L.M.1, 2

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7. Department of Pathology, Stony Brook University Medical Center, Sto=y Brook, NY

ABSTRACT

CDC designated category A infectious agents pose a major risk to natio=al security and require special action for public health pr=paredness. They include viruses that cause viral hemorrhagic fe=er (VHF) syndrome as well as variola virus, the agent of smallpo=. VHF is characterized by hemorrhage and fever with multi-organ=C2◆failure leading to high mortality and morbidity. Smallpox,=a prior scourge, has been eradicated for decades making it a par=icularly serious threat if released nefariously in the essentially no=immune world population. Early detection of the causative agents =nd ability to distinguish them from other pathogens is essential to=C2◆contain outbreaks, implement proper control measures and prevent=morbidity and mortality. We have developed a multiplex det=ction assay that uses several species-specific PCR primers to generate ampl=cons from multiple pathogens; these are then targeted in a ligas= detection reaction (LDR). The resultant fluorescently-lab=led ligation products are detected on a universal array enabling simultaneous identification of the pathogens. The assay wa= evaluated on 32 different isolates associated with VHF (ebolavirus,=C2◆marburgvirus Crimean Congo hemorrhagic fever virus, Lassa fever =irus, Rift Valley fever virus, Dengue virus, and Yellow fever virus) as well as variola virus and vaccinia virus (the agent of smal=pox and its vaccine strain, respectively). The assay was a=le to detect all viruses tested including 8 sequences representative=C2◆of different variola virus strains from the CDC repository. It does not cross react with other emerging zoonoses such =s monkeypox virus or cowpox virus, or six flaviviruses tested (St. Lo=is encephalitis virus, Murray Valley Encephalitis virus, Powassa= virus, Tick-borne encephalitis virus, West Nile virus and Japanese encephalitis virus).

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please note

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