

Recombinant antibodies that recognize the C-terminal domains of Ebola virus nucleoprotein

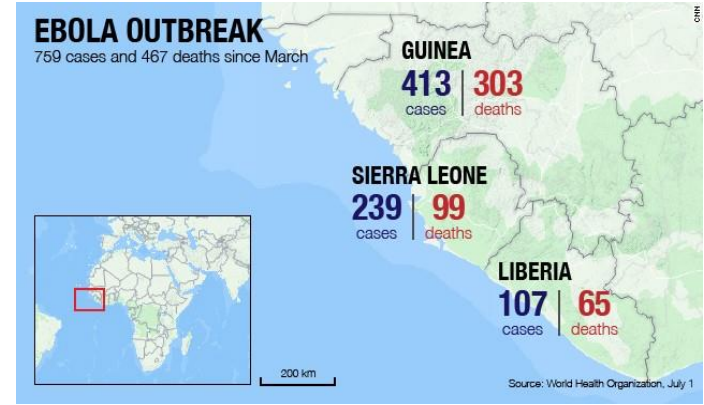
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Ebola virus (EBOV)

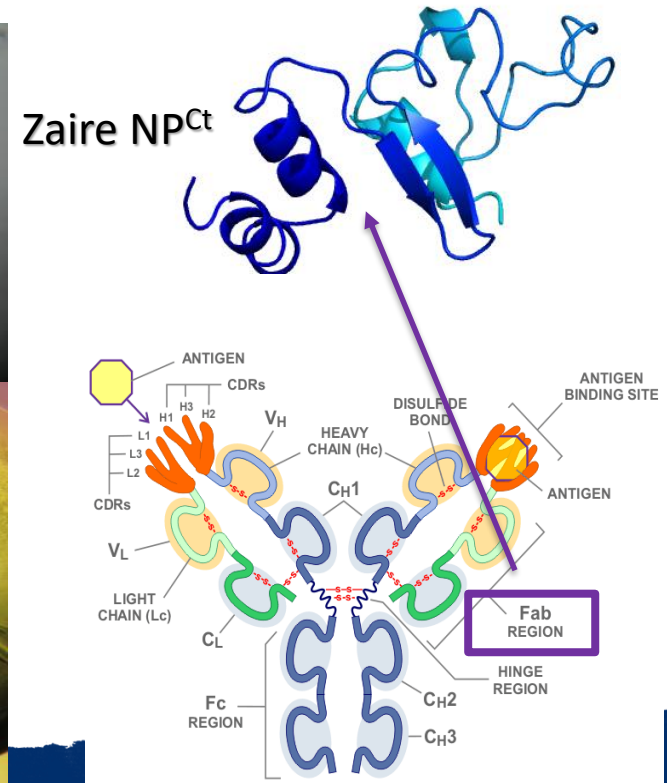
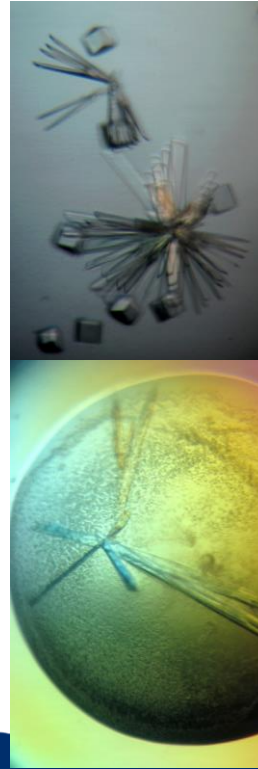
- A viral hemorrhagic fever virus that is classified as a Category A bio-terrorism agent
- EBOV causes severe illness due to its pathogenicity, high mortality, and human-to-human transmission
- Clinical Problem:
 - EBOV constitutes a grave global potential health threat (more than 250 deaths confirmed in most recent 2014-2016 outbreak)
 - No inexpensive, reliable point-of-care diagnostics available
 - No approved vaccines or anti-viral agents against EBOV



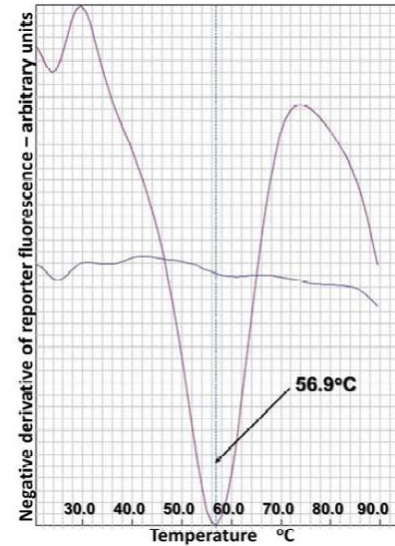
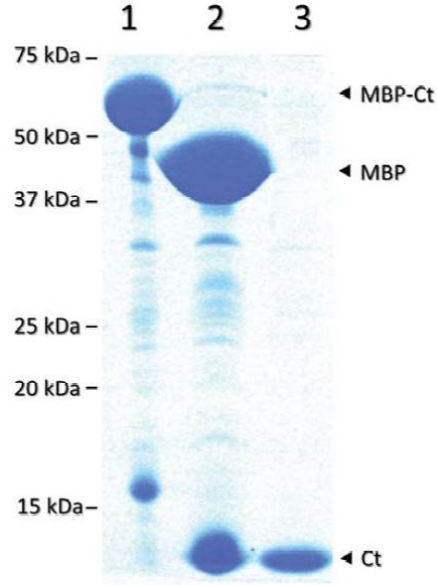
EBOV Diagnosis and Treatment

Solution: Researchers at the University of Virginia have generated recombinant F'ab antibody fragments for the diagnosis and treatment of EBOV

- **C-terminal fragment of the EBOV nucleoprotein (NP) is a major antigenic determinant**
- **Elucidation of the site where recombinant F'ab antibody fragments specifically binds to the EBOV NP antigen**

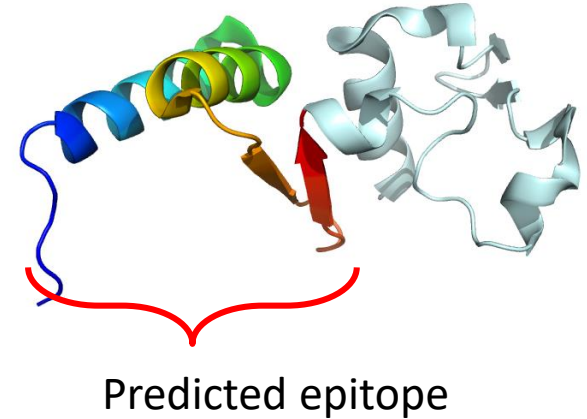
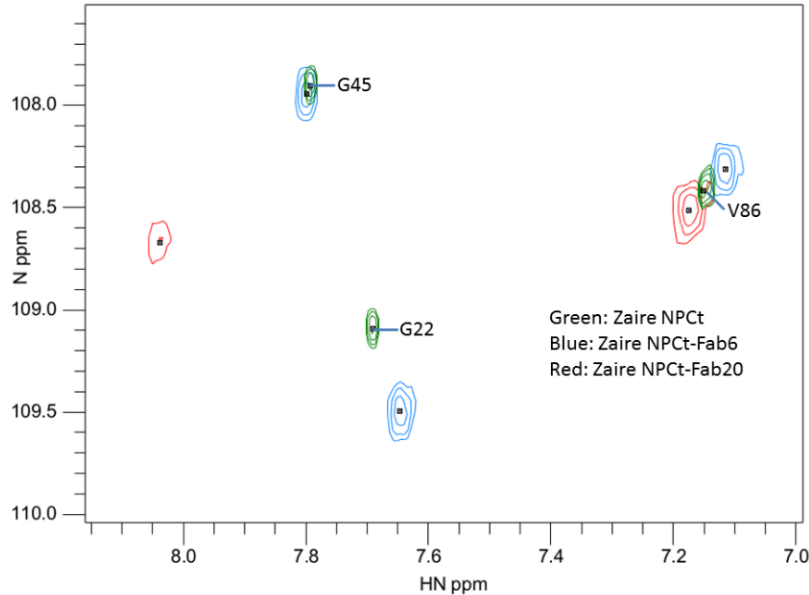
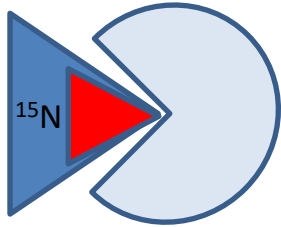


Identification of C-terminal domain of EBOV NP



Overexpression, purification and thermostability of the isolated N- and C-terminal globular domains of the EBOV Zaire NP.

Identification of the binding epitope



Zaire NP C-terminal binding site for antibody fragments Fab6 and Fab20 was identified by heteronuclear NMR.

Relevant Publications

- Acta Crystallogr D Biol Crystallogr. 2014 Sept 70(Pt 9); 2420-9.
Derewenda ZS, et. al.

Intellectual Property

- UVA Tech ID: DEREWENDA-EBOLA
 - Title: Recombinant antibodies that recognize the c-terminal domains of ebola virus nucleoprotein
 - International Application WO2016061504A3 filed on Jun. 9, 2016