Viral Special Pathogens Branch (VSPB)

WHAT WE DO

Outbreak Response

VSPB conducts outbreak responses nationally and internationally, and develops, evaluates, and improves methods for the treatment, prevention, and laboratory diagnosis of hazardous disease agents. VSPB works with the familiar viruses such as Ebola and hantavirus, as well as the viruses causing the following diseases:

- Marburg hemorrhagic fever
- Crimean-Congo hemorrhagic fever (CCHF)
- Hemorrhagic fever with renal syndrome (HFRS)
- Rift Valley fever (RVF)
- Lymphocytic choriomeningitis (LCM)
- Lujo hemorrhagic fever (LUHF)
- Lassa fever
- Chapare hemorrhagic fever (CHHF)
- Kyasanur Forest disease (KFD)
- Alkhurma hemorrhagic fever (AHF)
- Tick-borne encephalitis
- Omsk hemorrhagic fever (OHF)
- Hendra virus disease
- Nipah virus encephalitis

Virology

The Branch focuses on the isolation, identification, and characterization of these viruses, all of which require biosafety level 3 or biosafety level 4 laboratory conditions for safe handling. Branch staff conduct laboratory, clinical, ecological, and epidemiologic investigations on the pathogenesis and pathophysiology of these viruses, and provide consultation to hospitals and clinical teams for management of patients. The Branch has recently developed a successful vaccine against Rift Valley Fever for livestock.

Collaboration

VSPB consults with national and international scientists on the design, staffing, and efficient operation of high hazard pathogen laboratories, serving as a WHO Collaborating Center for Virus Reference and Research for Viral Hemorrhagic Fevers.

Education

The Branch develops, implements, and evaluates health education programs for educating the general public as well as health professionals about infection, treatment, infection control, prevention, and laboratory diagnosis of highly hazardous viral diseases.

Outbreak Investigations

The Branch has responded to many outbreak investigations over the past several decades, providing laboratory and epidemiological investigations to aid in developing, evaluating, and improving methods for the treatment, prevention, and laboratory diagnosis of hazardous disease agents. Most recently, VSPB has participated in the CDC Ebola outbreak response in both West Africa and the US. VSPB teams supported or directed epidemiologic responses and studies, diagnostic and laboratory support, and risk communication and health education activities.

National Center for Emerging and Zoonotic Infectious Diseases
Division of High-Consequence Pathogens & Pathology

CS258350A

Selected Recent Publications

1. Multi-District outbreak of Marburg Virus Disease—Uganda, 2012. Knust B, Schafer IJ, Wamala J, et al. Journal of Infectious Diseases Filoviruses Supplement [Accepted for publication, expected Aug 2015].
2. Experimental Inoculation of Egyptian Rousette Bats (Rousettus aegyptiacus) with Viruses of the Ebolavirus and Marburgvirus Genera. Jones ME, Schuh AJ, Amman BR, et al; Viruses. 2015 Jun 25;7(7):3420-42. doi: 10.3390/v7072779.
3. A Recently Discovered Pathogenic Paramyxovirus, Sosuga Virus, is Present in Rousettus aegyptiacus Fruit Bats at Multiple Locations in Uganda. Amman BR, Albariño CG, Bird BH, et al; J Wildl Dis. 2015 Jul;51(3):774-9. doi: 10.7589/2015-02-044. Epub 2015 Apr 28.
4. Von Willebrand factor is elevated in individuals infected with Sudan virus and is associated with adverse clinical outcomes. McElroy AK, Erickson BR, Flietstra TD, et al; Viral Immunol. 2015 Feb;28(1):71-3. doi: 10.1089/vim.2014.0072.
5. Lymphocytic choriomeningitis virus in employees and mice at multipremises feeder-rodent operation, United States, 2012. Knust B, Ströher U, Edison L, et al; Emerg Infect Dis. 2014 Feb;20(2):240-7. doi: 10.3201/eid2002.130860.
6. Twenty-year summary of surveillance for human hantavirus infections, United States. Knust B, Rollin PE. Emerg Infect Dis. 2013 Dec;19(12):1934-7. doi:

For More Information Visit: http://www.cdc.gov/ncezid/dhcpp/vspb/index.html