## EBOLA / RESTON VIRUSES

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<th>ANIMAL GROUP AFFECTED</th>
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<td>Ebola : Chimpanzee Gorilla, Baboon, Drill, Mandrill, Cercopithecus spp. man (duikers ?) Reston Virus: Macaca fascicularis</td>
<td>Contact, aerogenously (perorally ?)</td>
<td>Nonhuman primates: fever, weight loss, anorexia, nasal discharge, respiratory symptoms, lethargy, coma, haemorrhagic rash, diarrhea, elevated LDH levels, thrombocytopenia</td>
<td>Yes: Reston Virus in M. fascicularis 50% mortality rate. Ebola viruses in man highly fatal (Except Reston virus!)</td>
<td>None</td>
<td>In houses in zoos Extended (60 – 90 days) quarantine.</td>
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### Fact sheet compiled by
Manfred Brack, formerly German Primate Center, Göttingen / Germany.

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### Susceptible animal groups
Reston Virus: Macaca fascicularis. Ebola Ivory Coast: Pan troglodytes, Gorilla gorilla, Papio anubis, Mandrillus leucophaeus, M. sphinx, Cercopithecus neglectus. Fruit bats can be asymptomatic reservoir hosts.

### Causative organism

### Zoonotic potential
Yes, except Ebola- Reston..

### Distribution
Africa, Reston Virus probably imported from Africa to the Philippines.

### Transmission
Contact, aerogenously. Transmission to man by eating monkey meat suspected.

### Incubation period
3 – 9 days.

### Clinical symptoms
1. Reston virus in M. fascicularis (Co –infection with simian haemorrhagic fever virus!): fever, weight loss, anorexia, lethargy, nasal discharge, respiratory symptoms, haemorrhagic rash, diarrhea, elevated LDH levels, thrombocytopenia, mortality rate 50%. Ebola Zaire probably fatal also in gorillas and chimpanzees.

### Post mortem findings
Reston virus in M. fascicularis:(Co- infection with simian haemorrhagic fever virus);maculopapular rash, splenomegaly, petechial haemorrhages, interstitial pneumonia and bronchiolar / alveolar necroses, adrenal cortical necroses, amphophilic cytoplasmic inclusion bodies. Fibrin deposition in splenic cords, lymphoid depletion in the splenic white pulp.

### Diagnosis
Virology: antigen-capture ELISA, cell cultures, RNA-/DNA extraction, nucleotid sequencing, electron microscopy.
2. Serology: immunofluorescence, Western blots, Serum neutralization, radioimmunoassays, Immunofluorescence, mass tag PCR.

### Material required for laboratory analysis
Blood, serum( paired sera necessary), tissues.
**Relevant diagnostic laboratories**
1. CDC Atlanta / Georgia, USA
2. The Simian Diagnostic Laboratory at Virus Reference Laboratories, Inc.
   7540 Louis Pasteur Road
   SAN ANTONIO / Tx. 78229
   Tel.: (210) 614 – 7350
   Fax: (210) 614 - 7355
3. Robert Koch Institut
   Fachgebiet Hochpathogene Virale Erreger
   Nordufer 20
   D 13353 Berlin/Germany
   Tel.: 01888 / 754 – 2277
   Fax: 01888 / 754 – 2605
4. MZD für tropische Infektionserreger am Bernhard-Nocht-Institut für Tropenmedizin
   Bernhard Nocht-Str. 74
   20359 Hamburg.
   Tel.: 040 42818 – 401
   Fax: “ “ 400
   e-mail: MZD@bni-hamburg.de

**Treatment**
None

**Prevention and control in zoos**
Extended (60 – 90 days) quarantine. A construct of Ebola- / PI 3- viruses given aerogenously protected rhesus monkeys in experimental challenges with Ebola-virus.

**Suggested disinfectant for housing facilities**

**Notification**
In Germany: State Veterinarian according to §1 “Verordnung über anzeigepflichtige Tierseuchen, 3.Nov.2004”

**Guarantees required under EU Legislation**

**Guarantees required by EAZA Zoos**

**Measures required under the Animal Disease Surveillance Plan**

**Measures required for introducing animals from non-approved sources**

**Measures to be taken in case of disease outbreak or positive laboratory findings**

**Conditions for restoring disease-free status after an outbreak**

**Experts who may be consulted**
1. Prof. Dr. B. Fleischer, MZD, Hamburg
2. Prof. Dr. H. Schmitz, “ “
3. Prof. Dr. G. Pauli, Robert Koch Institut Berlin/Germany

**References**