

Biological Agent Reference Sheet (BARS)

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BIOLOGICAL AGENT REFERENCE SHEET

Respiratory Syncytial Virus (RSV)

| CHARACTERISTICS | |
|--------------------------|---|
| <i>Morphology</i> | Member of the <i>Paramyxoviridae</i> family, 150-300 nm in diameter, enveloped, -ssRNA virus. |
| <i>Growth Conditions</i> | Human epithelial cell lines (HEp-2). |

| HEALTH HAZARDS | |
|------------------------------|---|
| <i>Host Range</i> | Humans |
| <i>Modes of Transmission</i> | Directly by respiratory secretions, inhalation of large droplets, fomites, and oral contact. Indirectly by hands, articles soiled by respiratory or nasal secretions. |
| <i>Signs and Symptoms</i> | Runny nose, loss of appetite, coughing, sneezing, wheezing, bronchiolitis, pneumonia, and fever. |
| <i>Infectious Dose</i> | >100-640 infectious organisms (when administered intranasally). |
| <i>Incubation Period</i> | Incubation period is 2-8 day, however shedding may continue for several weeks. |

| MEDICAL PRECAUTIONS / TREATMENT | |
|---------------------------------|---|
| <i>Prophylaxis</i> | Human immunoglobulin and monoclonal antibodies. |
| <i>Vaccines</i> | None available. |
| <i>Treatment</i> | Aerosolized or oral ribavirin and immunoglobulin/ monoclonal antibodies to high risk groups. These groups include premature infants, immunocompromised individuals and children with cyanotic congenital heart disease. |
| <i>Surveillance</i> | Monitor symptoms. |
| <i>Emory Requirements</i> | Report any exposures. |

| LABORATORY HAZARDS | |
|--|--|
| <i>Laboratory Acquired Infections (LAIs)</i> | Only one reported case in 1978. However, it is likely that many LAIs occur but have not been reported due to the difficulty to link it back to the laboratory cause. |
| <i>Sources</i> | Nasal washes and secretions, nasopharyngeal swabs. |

| SUPPLEMENTAL REFERENCES | |
|---|---|
| <i>Canadian MSDS</i> | http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/pneumovirus-eng.php |
| <i>International Committee on Taxonomy of Viruses</i> | http://www.ncbi.nlm.nih.gov/ICTVdb/Ictv/index.htm |
| <i>CDC</i> | http://www.cdc.gov/rsv/index.html |
| <i>Journal of Virology</i> | Wright, PF et Al. (2005). Growth of respiratory syncytial virus in primary epithelial cells from the human respiratory tract. <i>J. Virol.</i> 79: 8651-8654. |

| CONTAINMENT REQUIREMENTS | |
|--------------------------|--|
| <i>BSL-2</i> | For all procedures involving infectious body tissue, fluid, or viral cultures. |
| <i>ABSL-2</i> | For all procedures involving animals infected with RSV. |

| SPILL PROCEDURES | |
|------------------|---|
| <i>Small</i> | Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply an appropriate disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before disposal and cleanup of spill materials. |
| <i>Large</i> | Contact Emory's Biosafety Officer (404-727-8863), the EHSO Office (404-727-5922), or The Spill Response Team (404-727-2888). |

| EXPOSURE PROCEDURES | | | | | |
|---|---|---|---|---|---|
| <i>Mucous membrane</i> | Flush eyes, mouth or nose for 15 minutes at eyewash station. | | | | |
| <i>Other Exposures</i> | Wash area with soap and water for 15 minutes. Ethanol rubs may be used for splashes and intact skin. | | | | |
| <i>Reporting</i> | Immediately report incident to supervisor, complete an employee incident report in PeopleSoft. | | | | |
| <i>Medical Follow-up</i> | <table border="0"> <tr> <td><i>7am-4pm (OIM):</i> EUH (404-686-7941) EUHM (404-686-7106) WW (404-728-6431)</td> <td><i>After Hours:</i> OIM NP On Call 404-686-5500 PIC# 50464</td> </tr> <tr> <td><i>Needle Stick (OIM):</i> EUH (404-686-8587) EUHM (404-686-2352)</td> <td><i>Yerkes:</i> Maureen Thompson Office (404-727-8012) Cell (404-275-0963)</td> </tr> </table> | <i>7am-4pm (OIM):</i> EUH (404-686-7941) EUHM (404-686-7106) WW (404-728-6431) | <i>After Hours:</i> OIM NP On Call 404-686-5500 PIC# 50464 | <i>Needle Stick (OIM):</i> EUH (404-686-8587) EUHM (404-686-2352) | <i>Yerkes:</i> Maureen Thompson Office (404-727-8012) Cell (404-275-0963) |
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| VIABILITY | |
|------------------------------|--|
| <i>Disinfection</i> | Susceptible to 1% sodium hypochlorite, 70% ethanol, 2% glutaraldehyde, and detergents. |
| <i>Inactivation</i> | Inactivated by freeze/thaw cycles, acidic conditions (pH<5), and heat (>55°C) |
| <i>Survival Outside Host</i> | Contaminated nasal secretions are viable on towels, cloths, rubber gloves, and other surfaces for up to 8 hours. |

| PERSONAL PROTECTIVE EQUIPMENT (PPE) | |
|-------------------------------------|--|
| <i>Minimum PPE Requirements</i> | At minimum, personnel are required to don gloves, closed toed shoes, lab coat, and appropriate face and eye protection prior to working with RSV. Additional PPE may be required depending on lab specific SOPs. |