

## Vertebrate Animal Level Biosafety Criteria

**TABLE 1**  
**SUMMARY OF RECOMMENDED BIOSAFETY LEVELS FOR ACTIVITIES IN WHICH EXPERIMENTALLY OR NATURALLY INFECTED**  
**VERTBRATE ANIMALS ARE USED**

ABSL	AGENTS	PRACTICES	PRIMARY BARRIERS AND SAFETY EQUIPMENT	FACILITIES (SECONDARY BARRIERS)
1	Not known to consistently cause diseases in healthy adults	Standard animal care and management practices, including appropriate medical surveillance programs	As required for normal care of each species	Standard animal facility: <ul style="list-style-type: none"> <li>No recirculation of exhaust air</li> <li>Directional air flow recommended</li> <li>Hand washing sink is available</li> </ul>
2	<ul style="list-style-type: none"> <li>Associated with human disease</li> <li>Hazard: percutaneous exposure, ingestion, mucous membrane exposure.</li> </ul>	ABSL-1 practice plus: <ul style="list-style-type: none"> <li>Limited access</li> <li>Biohazard warning signs</li> <li>“Sharps” precautions</li> <li>Biosafety manual</li> <li>Decontamination of all infectious wastes and of animal cages prior to washing</li> </ul>	ABSL-1 equipment plus primary barriers: <ul style="list-style-type: none"> <li>Containment equipment appropriate for animal species</li> </ul> PPEs <sup>1</sup> : <ul style="list-style-type: none"> <li>Laboratory coats, gloves, face and respiratory protection as needed</li> </ul>	ABSL-1 plus: <ul style="list-style-type: none"> <li>Autoclave available</li> <li>Hand washing sink available</li> <li>Mechanical cage washer recommended</li> </ul>
3	<ul style="list-style-type: none"> <li>Indigenous or exotic agents with potential for aerosol transmission</li> <li>Disease may have serious health effects</li> </ul>	ABSL-2 practice plus: <ul style="list-style-type: none"> <li>Controlled access</li> <li>Decontamination of clothing before laundering</li> <li>Cages decontaminated before bedding removed</li> <li>Disinfectant foot bath as needed</li> </ul>	ABSL-2 equipment plus: <ul style="list-style-type: none"> <li>Containment equipment for housing animals and cage dumping activities</li> <li>Class I, II or III BSCs available for manipulative procedures (inoculation, necropsy) that may create infectious aerosols.</li> </ul> PPEs: <ul style="list-style-type: none"> <li>Appropriate respiratory Protection</li> </ul>	ABSL-2 facility plus: <ul style="list-style-type: none"> <li>Physical separation from access corridors</li> <li>Self-closing, double-door access</li> <li>Sealed penetrations</li> <li>Sealed windows</li> <li>Autoclave available in facility</li> </ul>
4	<ul style="list-style-type: none"> <li>Dangerous/exotic agents that pose high risk of life threatening disease</li> <li>Aerosol transmission, or related agents with unknown risk of transmission</li> </ul>	ABSL-3 practices plus: <ul style="list-style-type: none"> <li>Entrance through change room where personal clothing is removed and laboratory clothing is put on; shower on exiting</li> <li>All wastes are decontaminated before removal from the facility</li> </ul>	ABSL-3 equipment plus: <ul style="list-style-type: none"> <li>Maximum containment equipment (i.e., Class III BSC or partial containment equipment in combination with full body, air-supplied positive-pressure personnel suit) used for all procedures and activities</li> </ul>	ABSL-3 facility plus: <ul style="list-style-type: none"> <li>Separate building or isolated zone</li> <li>Dedicated supply and exhaust, vacuum and decontamination systems</li> <li>Other requirements outlined in the text</li> </ul>

<sup>1</sup> PPE – Personal Protective Equipment