Date Prepared: <<*Date*>>

**Biological Hygiene Plan**

<<*PI’s Name*>> **Laboratory**

<<*Unit Name*>>

**Georgia Institute of Technology**

**Institutional Biosafety Committee & Biological Materials Safeguards Committee**

*<<Modify the following as appropriate >>*

1. **The Biological Hazard Standard**

Standard practices for occupational exposure to biological materials have been defined by Georgia Institute of Technology in accordance with the federal regulations set forth in the *NIH Guidelines for Research Involving Recombinant DNA Molecules (Guidelines)* and/or the *Centers for Disease Control (CDC) Biosafety for Biological and Biomedical Laboratories (BMBL).*

1. **Exposure Control Plan**

We will adopt the Georgia Tech Biohazardous Safety Manual and the Policies and Procedures Governing the Possession and Use of Recombinant DNA as our standard. The present document provides specific instruction regarding the use of <<*biological material*>>. In accordance with recommendations of the <<*CDC or NIH*>> for this agent, we will apply the criteria recommended for biosafety level <<*BSL*>> in terms of practices, safety equipment, and facilities, and we will adopt the concept of "universal precautions," which assumes that all instruments coming in contact with concentrated or dilute solutions of <<*biological material name* >> are potentially hazardous. Criteria for biosafety level <<*BSL*>> are incorporated into the following sections.

1. **Training**

All employees and students in the laboratory will receive <<*General Biosafety Training (and Bloodborne Pathogen Training and/or Recombinant DNA Training as applicable)*>>, conducted by Environmental Health and Safety, where such training will be documented. Training in the recognition and prevention of occupational exposure to biological materials as well as research protocols will be given by <<*name*>>, to all personnel whose employment or academic responsibilities may expose them to biological materials. Written records of those training sessions will be maintained by <<*name*>>. Employees and other personnel who will be working with rDNA and <<*biological material name* >> will also receive “Protocol Specific Training” regarding its use and appropriate handling in the laboratory.

1. **Statement of Specific Hazard for <<***biological material name***>> <<***Provide a description of the hazard(s)***>>**
2. **Engineering Controls**

<<*Describe location of experiments to be performed, plus safety precautions, as suggested in the following example*>>.

* 1. All experiments using <<biological material name>> will be performed in Room <<room number >> <<building name >>.
	2. All manipulations for preparations of concentrated stocks of <<biological material>> will be performed in the tissue culture facility in <<location>>, using Class <<BSC class >> biological safety cabinets. Safety cabinets will be certified annually.
	3. This facility will be off-limits at all times to children 12 years of age or younger. Older children may enter only when supervised. When <<biological material name>> manipulation is under way, traffic into the room will be limited to only that which is unavoidable.
1. **Work Practice Controls <<***modify the following as appropriate* **>>**
	1. Mechanical pipetting and suctioning devices will be used for manipulations of potentially hazardous fluids; pipetting or suctioning by mouth is strictly prohibited.
	2. Employees will place all used needles, scalpels, and other sharps directly into a labeled, puncture-proof sharps container immediately following use, without any effort made to recap by hand, destroy or remove needles from the syringes
	3. The following activities are prohibited from Room <<*location*>> during use of the <<*biological material*>>: eating; drinking; smoking; application of cosmetics or lip balm; handling of contact lenses; storage or preparation of food or drink.
	4. Employees with increased risk (broken skin, immunocompromised) should avoid working with potentially biological materials. All researchers working with <<*biological material*>> are required to enroll in the EHS Occupational Health Program.
	5. Work surfaces are decontaminated at least once per day, and after any spill of biological material. In practice, the surface of the biological safety cabinet will be cleaned with <<*70% isopropanol or 10% bleach or another appropriate disinfectant*>> before and after use.
	6. Containers for potentially hazardous laboratory waste will be labeled, leak-proof, and closeable.
	7. All recording chambers for experimental platforms that are used for experiments with the <<*biological material*>> will be treated for 10 min. with a solution of 0.5% sodium hypochlorite at the end of the experiment.
	8. Aspiration bottles for liquid waste from the experimental chambers used for experiments with the <<*biological material*>> will contain concentrated sodium hypochlorite at a volume large enough that the final concentration of sodium hypochlorite will not go below 0.5% as the bottle is filled.
	9. All potentially hazardous liquid or solid waste is decontaminated by treatment with 0.5% sodium hypochlorite and allowed to stand for at least 20 minutes. Liquid waste, which will include sodium hypochlorite, shall be discarded via sink disposal with copious amounts of water.
	10. Hazardous waste that has been autoclaved (for a minimum of 20 minutes at 120 degrees Celsius) shall be discarded via biohazard bag and box supplied by EHS. Biological materials that have been autoclaved are not allowed to be disposed of via regular solid waste means.
	11. There will be no unattended operations using <<*biological material*>>.
	12. All procedures are performed carefully to minimize the creation of aerosols.
	13. During experiments utilizing the <<*biological material*>>, which will be performed in Room <<*location*>>, the door to the laboratory will remain closed and locked. Only <<*PI’s name* >> laboratory personnel will be allowed entry during these times. During experiments using <<*biological material*>>, a biohazard warning sign will be posted which includes the universal biohazard warning symbol. A second card shall be placed on the door to the laboratory that includes the <<*PI’s name*>> name and emergency contact as well as the emergency contact information for another responsible member of the laboratory. During use of biohazards, personnel not affiliated with the laboratory will be warned against entering by the placement of a sign reading: “DO NOT ENTER – BIOHAZARD EXPERIMENT IN PROGRESS”.
	14. A safety shower and wall-mounted eyewash station is located <<*spot in room*>> in the laboratory.
	15. Stock solutions of <<*biological material*>> will be held in microfuge tubes as aliquots inside a clearly-labeled, sealed container(s), in <<refrigerator, freezer, located in Room>>. This refrigerator is clearly labeled as a NON-FOOD storage location.
	16. The following key phrases will remain standard in this laboratory:
		1. Acquire training in handling biological materials
		2. Observe "universal precautions"
		3. Wear protective clothing and gear, including gloves, goggles,
			1. and face mask
		4. Avoid sharps
		5. Control splash hazards
		6. Decontaminate waste materials
		7. Decontaminate the equipment
		8. Avoid increased risk
		9. Control aerosols
		10. Respond correctly to exposure
		11. When handling solutions containing <<*biological material*>>, remain vigilant, leave nothing to ambiguity, follow established protocols, and remain focused on your work.
2. **Personal Protective Clothes and Devices <<***modify the following as appropriate* **>>**
	1. The use of personal protective apparel constitutes the most important barrier in avoidance of occupational exposure to biological materials.
	2. When there is a potential for occupational exposure to biological material, protective clothing and devices must be used.
	3. When manipulating <<*biological material name*>>-containing solutions in the biological safety cabinet, employees shall wear gloves, a biohazard-designated laboratory coat (not to be worn outside of Room <<*location*>>), safety glasses with side shields and any other personal protective equipment that may be necessary to prevent overt exposures. Long hair must be pulled back and contained.
	4. Lab coats, gloves and goggles will be worn during all experiments involving <<*biological material*>>.
	5. Lab coats, gloves and goggles will also be worn during all cleaning and decontamination procedures, and during handling of biological waste that has not yet been autoclaved.
	6. When potentially contaminated, laboratory coats designated for use in Room <<*location*>> will be removed from this room in a protective container that is closed before removal from the laboratory, and immediately autoclaved. Coats must be decontaminated before laundering.
	7. When manipulating either dilute or concentrated solutions of <<*biological material*>>, or when handling of hazardous waste, employees shall wear clothing that fully covers their legs (*e.g.*, long pants) and closed-toe shoes.
3. **Post-Exposure Procedures <<***modify as appropriate*>>
	1. Employees must report exposure incidents to <<*PI’s name*>>, who will arrange for appropriate medical evaluation and follow-up, and to <<*name*>>, departmental safety officer.
	2. Medical evaluation, surveillance, counseling, laboratory testing, prophylaxis, and treatment will be provided to individuals who have occupational exposure to <<*biological material*>>.
	3. Employees who experience on the job injuries, accidents, or exposures to biological materials or agents must prepare a brief narrative report of the incident, as well as an official Illness and Injury Report Form, submit these to <<*PI’s name*>>, and have them forwarded to the Biosafety Officer at EHS.
4. **Emergency Actions <<***modify the following as appropriate*>>
	1. In case of emergency, such as spill of potentially biological material, the only issue of importance is the health and safety of the individual(s) at risk: the experiment or procedure is unimportant. All personnel should evacuate the area immediately.

 b. Spills and accidents that result in overt exposures to <<*biological material*>>-containing material are immediately reported to <<*PI’s name*>>, and then to EHS.

 c. All spills shall be immediately contained and cleaned up by appropriately trained individuals. Do not allow the hazard to be spread outside of <<*location*>>.

**A copy of this Biological Hygiene Plan for Biosafety Registrations Involving rDNA shall be provided to all personnel in the laboratory who work with the material described in this plan.**