

Oversight and Supervision for Undergraduates, High School, and Junior High Students, and Teachers Engaged in Biological Research in MIT Facilities

Each year MIT Principal Investigators are involved in various outreach, educational and research efforts involving undergraduate students, high school and junior high school students and teachers. The Committee on Assessment of Biohazards and Embryonic Stem Cell Research (CAB/ESCRO) recognizes the intrinsic value of these efforts. However, the committee also recognizes that the lack of experience and familiarity with the research environment of these individuals places them at risk when in the laboratory.

In order to assist investigators, the CAB/ESCRO has developed the following policy concerning supervision, training, and appropriate risk level of laboratory research projects for different students and teachers (regardless of length of project, i.e., days, weeks or semesters). If the Principal Investigator is not sure whether a project is appropriate for a particular group or individual, the MIT Biosafety Program will gladly assist with the project risk assessment.

While these individuals or groups are in the laboratory, their safety is the responsibility of the Principal Investigator (PI). All work should be preceded by a training and acclimatization period during which individuals are thoroughly familiarized with laboratory and microbiological safety techniques and procedures, as well as spill control, waste handling and emergency procedures. In all cases a supervisor, either the PI or their designee, should be clearly identified. Training date(s) and content should be documented and records kept by the PI.

Biosafety training content will depend on the details of the project and will be approved by the Institutional Biosafety Officer. In some cases, at the discretion of the Institutional Biosafety Officer, training may be provided by the Principal Investigator or by a responsible person designated by the PI. MIT BSP staff will gladly assist with this training.

For projects involving the use of human materials, training must include Bloodborne Pathogen Training, and participants must receive this training and 1) have had the HBV vaccination series prior to start of the project or 2) provide the PI with documentation of declination of the HBV vaccine.

I. Undergraduate Students:

- Undergraduate students may engage in research projects that have been designated as requiring BL2 containment and may utilize certain Risk Group 2 (RG2) organisms. Research involving RG2 agents, recombinant or synthetic nucleic acid technologies, human materials and cell lines should not proceed without training. Normally, undergraduates should be supervised at all times when in the laboratory. However, it is also important to offer undergraduates the opportunity to work independently as their skills and expertise increase. Where the student has shown exceptional skills and attitude, worked 6 months or more in the laboratory, and the PI and student agree, a

student may be given specific permission to work independently, without supervision, and “out of hours”.

- This permission should only be given following discussion(s) between the PI and the student focusing on (1) the ability of the student to work in a safe and responsible manner without supervision; (2) the level of technical skill and expertise attained by the student compared to the level required to conduct the work safely; (3) a thorough assessment of the risks inherent in the research project; and (4) establishing a clear understanding of what the student may and may not do when working without supervision or after hours. The committee asks that the PI document this process and submit the CAB/ESCRO Undergraduate Working Alone Form to the Biosafety Program. If there are any questions about the project or more information is needed, Biosafety staff members will work with the PI to clarify the information and address all questions. The completed form will become part of the Principal Investigator’s registration file.

II. High School & Junior High School Students:

- High school and junior high school students may engage in research that has been designated as requiring only BL1 containment and is low risk. This includes research involving murine cell culture. Potential projects that wish to use particular, well-characterized, human cell lines should be discussed with the Biosafety Program before initiation of the project. Only cell lines that are free of pathogens will be considered. High school and junior high students cannot work “after hours” and must be supervised at all times in the laboratory. Students are not allowed to be left unattended in the laboratory.

III. High School & Junior High School Teachers:

- High school and junior high teachers, depending on experience, may engage in research projects that have been designated as requiring BL2 containment and may utilize certain RG2 level organisms. School teachers should not work in MIT laboratories unsupervised unless they are able to demonstrate to the PI sufficient laboratory skills and expertise, and the project as planned requires extra, “out of hours”, work for completion. Requests to allow teachers to work alone should be made by the PI and be sent to the Biosafety Program for review.

Revision History:

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