

**DREXEL UNIVERSITY POLICIES FOR
THE POSSESSION, USE, TRANSFER AND RECEIVING
SELECT BIOLOGICAL AGENTS**

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Contents

1. Background
2. The Law
3. The Intent of the Law
- 4.1 Drexel University's Select Agents Policies for Researchers and their staff -
Standard Operating Procedures
- 4.2 Security of Select Agents – Investigator's Responsibilities
5. Complete List of Select agents
6. How Toxins are Federally Regulated
7. Recombinant Organisms and Molecules
8. Exclusions from Regulations
9. Toxin Exemptions

1. BACKGROUND

The U.S. Departments of Health and Human Services (HHS) under the control of the Center for Disease Control (CDC) and the Animal and Plant Health Inspection Service (APHIS)/United States Department of Agriculture (USDA) have established new safeguards for the possession, use, and transfer of select biological agents and toxins (select agents) that could pose a threat to public, animal and plant health and safety. This new rule will continue to strengthen programs aimed at protecting the American people from acts of terrorism and these safeguards will help protect the food supply without sacrificing valuable research being done on these agents. The rule updates the previous select agent rule by requiring facilities to register with HHS' Centers for Disease Control and Prevention (CDC) if they **possess** a select agent or agents that pose a potential threat to human health. **The new rule became effective February 7, 2003**

2. THE LAW

On June 12, 2002, President Bush signed the "Public Health Security and Bioterrorism Preparedness Response Act of 2002" (Public Law 107-188). The law is designed to improve the ability of the United States to prevent, prepare for, and respond to bioterrorism and other public health emergencies. Section 202(a) of the Law requires that all persons possessing biological agents or toxins deemed a threat to public health to notify the Secretary, Department of Health and Human Services (HHS). Section 213(b) of Law requires all persons possessing biological agents or toxins deemed a threat to animal or plant health and to animal or plant products notify the Secretary, United States Department of Agriculture (USDA).

For more information on the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188) visit:
<http://www.cdc.gov/od/sap/address.htm>.

For information on Laboratory Security and Emergency Response Guidance for Laboratories Working with Select Agents visit:
<http://www.cdc.gov/od/ohs/biosfty/bmbl4/b4af.htm>

3. Intent of the Law

Traditional laboratory biosafety guidelines published in Drexel University's Laboratory Safety Manual emphasizes the use of optimal work practices, to minimize risks of unintentional infection or injury for laboratory workers and to prevent contamination of the outside environment. Although clinical and research microbiology laboratories might contain dangerous biologic, chemical, and radioactive materials, to date, only a limited number of reports have been published of materials being used intentionally to injure laboratory workers or others (1--6). However, recently, concern has increased regarding possible use of biologic, chemical, and radioactive materials as terrorism agents (8,9). In the United States, recent terrorism incidents (10) have resulted in the substantial enhancement of existing regulations and creation of new regulations governing laboratory security to prevent such incidents.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002* (the Act) require institutions to notify the US Department of Health and Human Services (DHHS) or the US Department of Agriculture (USDA) of the possession of specific pathogens or toxins (i.e., select agents**), as defined by DHHS, or certain animal and plant pathogens or toxins (i.e., high-consequence pathogens), as defined by USDA. The Act provides for expanded regulatory oversight of these agents and a process for limiting access to them to persons who have a legitimate need to handle or use such agents. The Act also requires specified federal agencies to withhold from public disclosure, among other requirements, site-specific information regarding the identification of persons, the nature and location of agents present in a facility, and the local security mechanisms in use. In addition, the Uniting and Strengthening America by Providing Appropriate Tools Required To Intercept and Obstruct Terrorism (USA PATRIOT) Act of 2001\$ prohibits restricted persons from shipping, possessing, or receiving select agents. Violation of either of these statutes carries criminal penalties.

3.1 References

1. Török TJ, Tauxe RV, Wise RP, et al. Large community outbreak of salmonellosis caused by intentional contamination of restaurant salad bars. *JAMA* 1997;278:389--95.
2. Kolavic SA, Kimura A, Simons SL, Slutsker L, Barth S, Haley CE. Outbreak of *Shigella dysenteriae* type 2 among laboratory workers due to intentional food contamination. *JAMA* 1997;278:396--8.

3. US Nuclear Regulatory Commission. Report to Congress on abnormal occurrences July--September 1995; dissemination of information. Federal Register 1996;61:7123--4.
4. US Nuclear Regulatory Commission. Incident investigation report: ingestion of phosphorus-32 at Massachusetts Institute of Technology, Cambridge, Massachusetts, identified on August 19, 1995 [NUREG-1535]. Washington, DC: US Nuclear Regulatory Commission, 1995.
5. US Nuclear Regulatory Commission. Preliminary notification of event or unusual occurrence PNO-1-98-052. Subject: intentional ingestion of iodine-125 tainted food (Brown University), November 16, 1998. Washington, DC: US Nuclear Regulatory Commission, 1998.
6. US Nuclear Regulatory Commission. National Institutes of Health issuance of director's decision under 10 CFR Sec. 2.206. Federal Register 1997;62:50018--33.

Public Law 107--188, June 12, 2002.

**Throughout this report, the term *select agent* refers to specifically regulated pathogens and toxins as defined in Title 42, Code of Federal Regulations (CFR), Part 73, including pathogens and toxins regulated by both DHHS and USDA (i.e., overlapping agents and toxins). The reader should note that 42 CFR Part 73 has not been published yet, and is still under federal review with anticipated publication in December 2002.

§Public Law 107--56, October 26, 2001.

4. DREXEL UNIVERSITY'S SELECT AGENTS POLICIES FOR RESEARCHERS AND THEIR STAFF

4.1 Standard Operating Procedures

4.1.1 The Drexel University Policies on the possession, use, transfer and receiving select agents are provided to assist the investigators in meeting the regulatory mandate of 42 Code of Federal Regulation (CFR) 73 and, therefore, include information regarding personnel, risk assessments, and inventory controls. These guidelines are intended for laboratories where select agents are used under biosafety levels (BSL) 2, 3, or 4 to take into serious consideration of the following security policies and procedures:

- Risk and threat assessment;
- Facility security plans;
- Physical security;
- Data and electronic technology systems;
- Security policies for personnel;
- Policies regarding accessing the laboratory and animal areas;
- Specimen accountability;
- Receipt of agents into the laboratory;
- Transfer or shipping of select agents from the laboratory to another institution;
- Emergency response plans; and
- Reporting of incidents, unintentional injuries, and security breaches.

4.1.2 Investigators who use university facilities to, handle, transfer, receive, or store select agents listed below (section 5.0), irrespective of the purity and quantity, must register with the Office of Research Compliance (ORC) prior to acquiring or purchasing any amount of material or purity of Select Agents. To register, use the "Select Agent Inventory and Declaration Form", which is posted on the Office of Research website www.research.drexel.edu. To obtain the form click on Research – Compliance – Biosafety and "Select Agent Inventory and Declaration Form". Complete, mail or fax the form to the ORC. The ORC will send a copy of this form to the Office of Safety and Health (OSH) for inventory and tracking purposes. All inventory accounting, tracking and inspections will be done by the OSH.

Please note that the form requires submission of detailed information about the investigator and his/her laboratory. The ORC and the Office of Safety and Health (OSH) shall provide any assistance required for completing this form. Please call 215-762-3453 or 215-762-6050 for assistance.

4.1.3 In order to comply with Federal regulations, the university has appointed a Responsible Official (RO) and an alternate for this RO. They are Harvill C. Eaton, Ph.D., Provost, Drexel University and Sreekant Murthy, Ph.D., Vice Provost for Research Compliance, respectively.

4.1.4 No select agent, irrespective of purity and quantity should be transferred to or from Drexel University or Drexel University College of Medicine without prior registration with the Office of Research Compliance, RO's approval and the CDC/USDA. Guidance documents and the form for receiving and shipping are posted on the website: <http://www.aphis.usda.gov/vs/ncie/pdf/transfer.pdf>. Authorization from the Office of Research Compliance is required before transferring the agent to another facility or receiving the select agent from another facility. This authorization is required because the ORC must register the laboratory (facility) with the CDC/USDA when any of the select agents above the exempt level is added to the list. Only the Office of Research Compliance through RO will coordinate all requests for CDC or USDA approval regarding the procurement, transfer or destruction of Select Agents.

4.1.5 Institutional Biosafety Committee must approve the use of a select agent before work can begin. Biosafety committee meets once a month. The process for submission of Biosafety protocols for committee review is posted on the Office of Research website www.research.drexel.edu. To obtain guidance and forms click on Research – Compliance – Biosafety and Biosafety Guidelines

4.1.6 Purchase of select agents in any quantity and purity requires approval from the ORC. The ORC will send a copy of the purchase order to the OSH for tracking and maintaining an inventory of all select agents to ensure compliance with respect to the aggregate amount of a select agent used in our university. It is the aggregate amount of select agent toxins that determines whether the university has to register with CDC/USDA.

4.1.7 Use of [Small Value Purchase Orders](#) or use of a [Purchasing Card](#) is permitted within the policies of the purchasing department, but require prior permission from the ORC before a select agent is ordered. Signature of Vice Provost for Research Compliance on the small value purchase order or a memo detailing the purchase of select agent through purchasing card is sufficient to purchase. The ORC will send a copy of the approved request to OSH for maintaining the inventory and tracking of select agents. Policies on small value purchase orders and purchasing cards are posted on the website:

<http://www.drexel.edu/depts/purchasing/PurchaseOrderGuidelines.html#SmallValue> and http://coreapp1.drexel.edu/webprocurement/purchase_card.html, respectively.

4.2 Security of Select Agents – Investigator’s Responsibilities

4.2.1 All select agents must be kept in a secure place under lock and key. Establish appropriate security plans, which include periodic testing to determine the effectiveness through test procedures, which can vary from a simple check of keys, locks, and when necessary, alarms to a full scale laboratory exercise.

4.2.2 Ensure that there are sufficient controls to prevent access by non-authorized personnel:

- Control access to the area as suggested by the OSH
- Restrict access to select agents to workers who are authorized and required to perform work in the area.
- Limit the access of non-laboratory personnel.
- Keep the room locked at all times.
- Record all entries, including entries by visitors, maintenance workers, repairmen and others needing one-time or occasional entry.
- Freezers, refrigerators, cabinets, and other containers where stocks of select agents should be locked at all times.
- Screen all packages being removed or brought into the laboratory or facility.
- Have an emergency plan in place in case of an emergency.
- Report incidents to appropriate department, administrators, or agencies

- 4.2.3 Ensure that all laboratory workers and visitors understand security requirements and that all employees and students are trained and equipped to follow established procedures. Security plan should be an integral part of daily operations. New employees and students should receive training when they first begin work, and all employees should receive training at least annually thereafter. Training should be updated as policies and procedures change. All training should be documented by maintaining records of training schedules and employee/student attendance.
- 4.2.4 Make sure to screen all employees and other personnel who require access to select agents or who enter the laboratory. Employees and students must wear a visible identification badge with a photo.
- 4.2.5 Immediately report to the ORC if select agents are stolen or found missing. Please be advised that ORC must report such incidences to the CDC/USDA when they occur. The CDC/USDA guidance to report theft, loss or release of select biological agents and toxins is posted on the website: <http://www.cdc.gov/od/sap/forms/theftfil.pdf>
- 4.2.6 When select agents are completely used, report to the OSH. It helps the OSH to make appropriate changes to the inventory.
- 4.2.7 Investigators are not permitted to dispose select agents on their own. Contact the OSH to dispose the unused select agent(s). Disposal of select agents must be reported to the CDC/USDA. ORC is responsible for reporting disposal of agents.
- 4.2.8 Maintain and update records of transfers, acquisitions, purchases, inventories, stocks, use, and destruction of select agents.
- 4.2.9 Ensure that individuals working in your laboratory are aware of restrictions on transferring, receiving, storage, safe work practices, and use of select agents. Train all personnel with access to the Select Agent in:
- Inventory management (security, written inventory, etc.)
 - Safe work practices
 - Personal protective equipment (if required)
 - Emergency Procedures in the event of a spill or exposure
 - Signs and symptoms of exposure
 - Vaccination requirements (if any)
 - Written disposal and deactivation procedures
- 4.2.10 Complete and maintain an annual inventory of select agents. Submit a copy of the annual inventory to the OSH.
- 4.2.11 Ensure that the laboratory has a copy of the Chemical Hygiene Plan that addresses personal protection, training, and safe work practices in

place when working with biological toxins. Copies of Chemical Hygiene plan is posted on the website: www.research.drexel.edu. Click on Research – Compliance – Biosafety and Laboratory Safety manual to obtain a copy of the plan.

- 4.2.12 If you are not using a select agent, you must complete the demographic information on the Select Agent Inventory form and sign “Select Agent Inventory and Declaration Form” and send the form to the OSH. To download this form, go to the Office of Research website: www.research.drexel.edu. To obtain the form, click on Research – Compliance – Biosafety and “Select Agent Inventory and Declaration Form” Complete and mail the form to OSH. The address is: Office of Safety and Health, 5th Floor, Bellet Building, 1505 Race Street, MS 622, Philadelphia, Pa 10102

5. COMPLETE LIST OF SELECT AGENTS

The CDC and USDA have categorized the list based on where the application needs to be sent. Some agents are regulated by CDC alone, some by USDA alone and some are overlapping agents which are regulated by either CDC or USDA. The ORC shall determine where the agent and the investigator have to be registered or registration to be amended.

5.1 CDC (HHS) SELECT AGENTS TO BE AUTHORIZED BY CDC ONLY

Crimean-Congo haemorrhagic fever virus
Coccidioides posadasii
Ebola viruses
Cercopithecine herpes virus 1 (Herpes B virus)
Lassa fever virus
Marburg virus
Rickettsia prowazekii
Rickettsia rickettsii
South African hemorrhagic fever viruses
 Junin
 Machupo
 Sabia
 Flexal
 Guannarito
Tick-borne encephalitis complex (flavi) viruses
 Central European tick-borne encephalitis
 Far Eastern tick-borne encephalitis
 Russian spring and summer encephalitis
 Kyasanur forest disease
 Omsk hemorrhagic fever
Variola major virus (Smallpox virus)
Variola minor virus (Alastrim)
Yersinia pestis
Abrin
Conotoxins

Diacetoxyscirpenol
Ricin
Saxitoxin
Shiga-like ribosome inactivating proteins
Tetrodotoxin

5.2 HIGH CONSEQUENCE LIVESTOCK PATHOGENS AND TOXINS OVERLAPPING GROUP WHICH CAN BE AUTHORIZED BY CDC OR USDA

Bacillus anthracis
Brucella abortus
Brucella Melitensis
Brucella suis
Burkholderia (*Pseudomonas*) mallei
Burkholderia pseudomallei (formerly *Pseudomonas pseudomallei*)
Botulinum neurotoxin-producing species of *Clostridium*
Coccidioides immitis
Coxiella burnetii
Eastern equine encephalitis
Hendra virus
Francisella tularensis
Nipha virus
Rift valley fever virus
Venezuelan equine encephalitis virus
Botulinum neurotoxin
Clostridium perfringens epsilon toxin
Shigatoxin
Staphylococcal enterotoxin?
T-2 toxin

5.3 USDA HIGH CONSEQUENCE LIVESTOCK PATHOGENS AND TOXINS TO BE AUTHORIZED BY USDA ONLY

Akabane virus
African swine fever virus
African horse sickness virus
Avian influenza virus (highly pathogenic)
Blue tongue virus (exotic)
Bovine spongiform encephalopathy agent
Camel pox virus
Classical swine fever virus
Cowdria ruminantium (*Hearatwater*)
Foot and mouth disease virus
Goat pox virus
Lumpy skin disease virus
Japanese encephalitis virus
Malignant catarrhal fever virus (exotic)
Menangle virus
Mycoplasma capricolum/*M.F38*/*M. mycoides mycoides*
Newcastle disease virus (VVND)

Peste Des Petits Ruminants virus
 Rinderpest virus
 Sheep pox virus
 Swine vesicular disease virus
 Vesicular stomatitis virus (exotic)

5.4 USDA LISTED PLANT PATHOGENS TO BE AUTHORIZED BY USDA ONLY

Liberobacter africanus
Liberobacter asiaticus
Peronosclerospora philippinensis
Phakospora pachyrhizi
 Plum pox Potyvirus
Ralstonia solanacearum race 3, biovar 2
Sclerophthora rayssiae var *zeae*
Synchytrium endobioticum
Xanthomonas oryzae
Xylella fastidiosa (citrus variegated chlorosis strain)

6. HOW TOXINS ARE FEDERALLY-REGULATED

Toxins are regulated based on potency and quantity (as opposed to potency only or LD50 values). If investigators at Drexel University **do not** at any time **have more** than the following aggregate* amounts (in the purified form or in combinations of pure and impure forms) the university is excluded from requirements of the regulation for possession and registration.

Abrin	100 mg
Botulinum neurotoxin	0.5 mg
<i>Clostridium perfringens</i> epsilon toxin	100 mg
Conotoxins	100 mg
Diacetoxyscirpenol	1000 mg
Ricin	100 mg
Saxitoxin	100 mg
Shiga-like ribosome inactivating proteins	100 mg
Shigatoxin	100 mg
Staphylococcal enterotoxin	5 mg
Tetrodotoxin	100 mg
T-2	1,000 mg

*aggregate means combined weight of a select agent in possession of one or more investigators within the registered facility

7. RECOMBINANT ORGANISMS/MOLECULES

- 7.1 Genetically modified microorganisms or genetic elements from agents in these lists that have the potential to encode for a factor associated with disease.
- 7.2 Genetically modified microorganisms or genetic elements that contain nucleic acid sequences coding for any of the toxins on these lists, or their toxic subunits.

8. EXCLUSIONS FROM THE REGULATION

1. Select agents or toxins that are in their naturally occurring environment, provided that it has not been intentionally introduced, cultivated, collected, or otherwise extracted from its natural source.
 2. Non-viable select agent organisms or nonfunctional toxins.
 3. The vaccine strain of Junin virus (Candid #1).
 4. It is possible under the new rule to apply for exclusion for any attenuated agent or toxin using an appropriate form obtainable from CDC.
 5. Exclusions for specific strains may be granted if the attenuated strain is determined not to pose a significant public health or safety threat.
- Exclusions will be published in the notice section of the Federal Register and will be listed on the CDC website at <http://www.cdc.gov/od/sap>.

9. TOXIN EXEMPTIONS

List of toxins and threshold level for the entire Drexel University Facilities (Aggregate amount from all laboratories in the university, for a particular select agent)

Abrin	100 mg
Botulinum toxin	0.5 mg
<i>Clostridium perfringens</i> epsilon toxin	100 mg
Conotoxins	100 mg
Diacetoxyscirpenol	1 g
Ricin	100 mg
Saxitoxin	100 mg
Shiga-like ribosome inactivating proteins	100 mg
Shigatoxin	100 mg
Staphylococcal enterotoxins	5 mg
T-2 toxin	1 g
Tetrodotoxin	100 mg

NOTE: Botulinum neurotoxin is only considered a select toxin under the Select Agent regulations when the amount under the control of a physician exceeds 0.5 mg. Additionally, all dermatology clinics using FDA-approved botulinum toxin preparations in accordance with labeling instructions are excluded from the requirements to register under the Select Agent regulations and DO NOT need to submit a letter to CDC or USDA to declare exemption from registration with the Select Agent Program.

- 9.1 Under the regulations toxins listed above are exempt from the Select Agents registration with the Federal government as long as the amount in

possession of all principal investigators at Drexel University and Drexel University College of Medicine does not exceed the aggregate amount listed above whether the toxin is pure or impure form. For example, possession of a select agent such as a milligram of tetrodotoxin does not require registration with the Federal government, but requires registration with the university ORC. This is done to ensure inventory control and tracking so the cumulative/aggregate amount in the university does not exceed the exempt level.

Investigators can keep exempt quantities of select agents (as long as the aggregate amount in the university does not exceed the exempt limits) in their laboratory for any length of time; however, they must follow the security, inventory control and tracking policies enumerated in this document.

- 9.2 Principal investigators in possession of any of the toxins listed above, irrespective of the quantity or purity of the toxin must complete the "Select Agents Inventory and Declaration Form". Signed completed forms must be submitted to the Office of Health and Safety. To download the form, please go to www.research.drexel.edu.
- 9.3 The Office of Research Compliance must be notified prior to each toxin acquisition purchase or transfer, regardless of the quantity procured or transferred. The notification must include the name of the toxin, source and quantity. Purchase or acquisition should occur only after receiving the approval from ORC.
- 9.4 Principal investigators must maintain an inventory log for each toxin listed above. The log should have the date, the quantity of each purchase, source, date of purchase, amount of toxin used in the experiment and how the sample was destroyed or disposed.
- 9.5 The Safety department shall periodically conduct audits to verify the maintenance of the toxin inventory logs and to verify the storage, usage and disposal of toxins.
- 9.6 Principal investigators are responsible to ensure security of the toxins by limiting access to the toxin storage and use locations.
- 9.7 Principal investigators must inform the Office of Health and Safety when they are no longer in possession of select agent toxins
- 9.8 If the amount of toxin exceeds the exemption quantity, prior approval from the ORC and Federal Select Agent Program coordinated through the Office of Research Compliance and RO must be obtained before acquiring the material.

