



August 19, 2010

Comments on the Bioterror Select Agent List

To Whom It May Concern:

The **University of Wisconsin-Madison** is committed to ensuring that its research with Biological Select Agents and Toxins (BSAT) is carried out under conditions for which biosafety and biosecurity rules and guidelines protect the researchers and the public in general. However, as with all regulated research there are pitfalls to over regulation. Vigorous research on BSATs is vitally important for global health and food security. The restrictions imposed by Select Agent regulations have constrained research progress. The costs in time and equipment of becoming a Registered Entity, becoming personally authorized to work with the agent, frequent inspections to ensure physical, bioinformatic, and biological security requirements are met, and substantial regular reporting requirements have discouraged qualified expert researchers from working with this group and slowed the progress of those who do. Even ordinary exchanges of strains between authorized and registered researchers are complex and time-consuming, requiring several weeks of faxing requests and reports among institutions. Peer-reviewed studies have documented that listing an agent as a Select Agent can reduce productivity and efficiency of research (2,3), and has resulted in destruction of collections of microbes that are important for research progress (1). Thus it is critically important that this highest level of security be reserved for agents that clearly pose the most serious threats, and that it is possible to remove agents from the list if they do not meet the criteria.

1. Casadevall, A., and M. J. Imperiale. 2010. Destruction of microbial collections in response to Select Agent and Toxin list regulations. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 8. DOI: 10.1089/bsp.2010.0012.
2. Casadevall, A., and D. Relman. 2010. Microbial threat lists: obstacles in the quest for biosecurity? *Nature Reviews Microbiology* 8:149-154.
3. Dias, M. B., L. Reyes-Gonzalez, F. M. Veloso, and E. A. Casman. 2010. Effects of the USA Patriot Act and the 2002 Bioterrorism Preparedness Act on select agent research in the United State. *Proc. Natl. Acad. Sci. USA* 107:9556-9561.

Regarding the tiering system, we believe this could be useful if it identifies and narrows the spectrum of agents that are easily transmitted within species and pose the greatest risk to humans, agricultural plants and animals that could result in a

**Graduate School**

Bascom Hall University of Wisconsin-Madison 500 Lincoln Drive Madison, Wisconsin 53706-1380

Dean's Office  
608/262-1044  
Fax: 608/262-5134

Graduate Admissions & Academic  
Services, Diversity Resources  
608/262-2433, Fax: 608/265-9505

Accounting  
608/262-5835  
Fax: 608/262-5134

Human Resources  
608/262-5802  
Fax: 608/262-5235

Professional Development  
& Engagement  
608/262-1044, Fax: 608/262-5134

major catastrophe. If agents are assigned to tier I status but the constraints to work with these agents are increased over current biosecurity conditions, we believe that research will be reduced even further. Thus, using tier I to retain BSAT such as Variola major virus (Smallpox virus), Variola minor virus (Alastrim), Reconstructed replication competent forms of the 1918 pandemic influenza, Lassa fever virus, Marburg virus, Ebola virus, Botulinum neurotoxins, Ricin, and Bacillus anthracis would reduce the substantial effort on the part on registered organizations.

Many of the wild-type strains of organisms currently on the Select Agent list can be obtained from nature and high-level biosecurity laboratories that possess these agents should be at a lower tier with reduced restrictions. Any genetically manipulated strains of these organisms, especially virulence factors and antibiotic resistance genes might cause them to be classified in the tier I category. Some agents for example, Coccidioides, Staphylococcal enterotoxins, Shigatoxins, and Ralstonia solanacearum race 3, biovar 2 could be eliminated form the list.

Coccidioides naturally infects many endemic areas in the U.S. each year. Staphylococcal enterotoxins can be found in naturally contaminated food. Use of shigatoxins as a biological agent would be problematic in that they are usually only produced within the body of an infected individual. Ralstonia solanacearum race 3 biovar 2 is also naturally occurring and was introduced into the U.S. from infected geraniums and has been effectively eradicated.

We urge both CDC and APHIS to gather representative groups of entities once comments have been received to undertake a rigorous scientific approach to constructing a tiering system for BSATs that is both useful and logical.

Respectfully submitted,



William S. Mellon, Ph.D.

Responsible Official

Professor, Pharmaceutical Sciences

Associate Dean, Research Policy, Graduate School