

Life Sciences Dual Use Research of Concern (DURC) is research that uses one or more of the agents/toxins listed below in (A), **and** produces, aims to produce or can be reasonably anticipated to produce one or more of the experiments/effects listed below in (B).

**(A) Specific Agents included as Life Sciences DURC**

- Avian influenza virus (highly pathogenic)
- Bacillus anthracis
- Botulinum neurotoxin \*
- Burkholderia mallei
- Burkholderia pseudomallei
- Ebola virus
- Foot-and-mouth disease virus
- Francisella tularensis
- Marburg virus
- Reconstructed 1918 Influenza virus
- Rinderpest virus
- Toxin-producing strains of Clostridium botulinum
- Variola major virus
- Variola minor virus
- Yersinia pestis

\* NOTE: There are no exempt quantities of botulinum neurotoxin. Use of any amount of botulinum toxin for experiments/effects listed below in (B) needs to be reviewed by the Virginia Tech IRE.

**(B) Categories of Experiments included as Life Sciences DURC**

- Enhances the harmful consequences of the agent or toxin;
- Disrupts immunity or the effectiveness of an immunization against the agent or toxin without clinical or agricultural justification;
- Confers to the agent or toxin resistance to clinically or agriculturally useful prophylactic or therapeutic interventions against that agent or toxin or facilitates their ability to evade detection methodologies;
- Increases the stability, transmissibility, or the ability to disseminate the agent or toxin;
- Alters the host range or tropism of the agent or toxin;
- Enhances the susceptibility of a host population to the agent or toxin; or
- Generates or reconstitutes an eradicated or extinct agent or toxin listed in (A).