



# VUMC Export Compliance

## Export-Controlled & Restricted Genetic Elements

### Genetic elements and genetically modified organisms

- Any genetically modified organism that contains, or any genetic element that codes for, any of the following:
  - Any gene, genes, or translated product(s) specific to any virus on [this list](#);
  - Any gene or genes specific to any bacterium on [this list](#) or any fungus on [this list](#);
    - In itself or through its transcribed or translated products represents a significant hazard to human, animal or plant health; *or*
    - Could endow or enhance pathogenicity; *or*
  - Any toxins, or their subunits, on [this list](#)

### Technical Notes

1. The items above are restricted genetic elements or genetically modified organisms for all biological agents and “toxins,” regardless of quantity or attenuation, that are identified on the lists above. This includes genetic elements or genetically modified organisms for attenuated strains of select biological agents or “toxins” that are excluded from the lists of select biological agents or “toxins” by the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, or the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, in accordance with the APHIS & CDC regulations.
2. Vaccines that contain genetic elements or genetically modified organisms identified in this ECCN are controlled by ECCN 1C991.
3. Genetically modified organisms include organisms in which the nucleic acid sequences have been created or altered by deliberate molecular manipulation.
4. “Genetic elements” include, inter alia, chromosomes, genomes, plasmids, transposons, vectors, and inactivated organisms containing recoverable nucleic acid fragments, whether genetically modified or unmodified, or chemically synthesized in whole or in part. For the purposes of this section, nucleic acids from an inactivated organism, virus, or sample are considered to be 'recoverable' if the inactivation and preparation of the material is intended or known to facilitate isolation, purification, amplification, detection, or identification of nucleic acids.
5. This section does not restrict nucleic acid sequences of shiga toxin producing Escherichia coli of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups, other than those genetic elements coding for shiga toxin, or for its subunits.
6. 'Endow or enhance pathogenicity' is defined as when the insertion or integration of the nucleic acid sequence or sequences is/are likely to enable or increase a recipient organism's ability to be used to deliberately cause disease or death. This might include alterations to, inter alia: virulence, transmissibility, stability, route of infection, host range, reproducibility, ability to evade or suppress host immunity, resistance to medical countermeasures, or detectability.