Autogenous Biologics

Overview

Autogenous biologics are custom vaccines that consist of herd specific (homologous) antigens. They are licensed products, produced in a licensed facility, according to an approved Outline of Production. Autogenous biologics are approved for use by or under the direction of a veterinarian or approved non-veterinarian specialist. Therefore, good basic diagnostic work and incorporation of the proper adjuvant, are essential to enhance effectiveness of these products. Autogenous products fit well with small companies that have a close relationship with veterinarians/fish health specialists who can provide personal service to clients. Use of autogenous products is considered when no commercially licensed product is available, or when commercially licensed products have not provided adequate protection.

Regulations and guidance regarding autogenous biologics are found in the following documents.

9CFR 113.113	Autogenous Biologics
9 CFR 112.7	Labeling Requirements
VSM 800.85	Avian Influenza Vaccines
VSM 800.69	Guidelines for Autogenous Biologics
VSM 800.103	Guidelines Concerning Restrictions on the Production and Use of Veterinary Biologics
CVB Notice 02-04	Autogenous Vaccine Use in Turkeys
CVB Notice 09-15	Autogenous Vaccines Containing Porcine Circovirus

Definitions

Herd of Origin: The group of animals from which the disease-causing microorganism was originally isolated. The herd of origin includes animals moved into the original herd. Movement of the entire original herd to a new location without additional commingling is still the same herd. Groups of animals under the same ownership, but at different locations are separate herds. Offspring and excess breeding stock moved from the original herd have changed herds.

Adjacent Herd: An adjacent herd is a group of animals that are physically contiguous with the herd of origin; no other herds exist between the adjacent herd and the original herd. Shipment of an autogenous product to an adjacent herd requires notification of State regulatory authorities and CVB.

Nonadjacent Herd: Nonadjacent herds include all herds other than the herd of origin and adjacent herds. Approval for use of autogenous products in nonadjacent herds must

be received from appropriate State Veterinarians prior to shipment. CVB must be notified.

Isolate: The isolate used to make the autogenous product must be from the herd of origin (although exceptions apply). Isolates must be properly identified to at least the genus and species level for bacterial isolates. Viral isolates must be properly identified to at least the family level. Characterization should be to the strain and/or serotype if the firm's intent is to use the isolate for a year or more. For some viruses (like influenza), this information is important and firms should be encouraged to provide this information if available.

Non-veterinarian Specialist: 9 CFR 113.113 allows an autogenous biologic to be prepared for use by a person of specialized expertise other than a veterinarian in special situations approved by the Administrator. An example of a non-veterinarian specialist is a fish health specialist approved to dispense aquaculture vaccines. To request approval to prepare an autogenous biologic for use by a non-veterinarian, a firm needs to provide the following information to CVB-IC:

- Identification; name and qualifications of the non-veterinarian
- Justification; description of the special situation

Veterinarian-Client-Patient Relationship (VCP): Autogenous products are only prepared for use by or under the direction of a veterinarian or approved non-veterinarian specialist under a VCP relationship. A VCP relationship exists when all of the following conditions are met:

- The veterinarian has assumed responsibility for making clinical judgments regarding the health of the animal(s) and the need for medical treatment, and the client has agreed to follow the veterinarian's instructions.
- The veterinarian has sufficient knowledge of the animal(s) by virtue of an examination of the animal(s), or by medically appropriate and timely visits to the premises where the animal(s) are kept.
- The veterinarian is readily available, or has arranged for emergency coverage, for follow-up evaluation in the event of adverse reactions or failure of the treatment regimen.

When a VCP relationship exists, veterinarians must maintain medical records.

Reviewing Autogenous Product Submissions

1. Types of Autogenous licenses include
    a. Autogenous Vaccine, Killed Virus
    b. Autogenous Bacterin
    c. Autogenous Vaccine, Killed Virus, Autogenous Bacterin
    d. Autogenous Vaccine, Killed Fungus
2. Outlines of Production (OP)s for Autogenous products
    a. Autogenous OPs follow the same basic format used for all vaccines, bacterins, and toxoids, as outlined in 9 CFR 114.9.
    b. Usually generically worded for production flexibility.

c. Adjuvants used in autogenous product must be approved in the species in which the product is to be used, and at the levels specified in the OP (as per VSM 800.51).
d. Viral autogenous products must use USDA approved cell lines
    i. Cell lines should satisfy requirements in 9 CFR 113.52
        1. Should be identified in Section II.C.1 of the OP
        2. Must be approved for use in species of animal in which the product is to be used in
    ii. If primary cells are used, these should satisfy requirements in 9 CFR 113.51 and VSM 800.65. The appropriate citations should be included in the Outline of Production.

[redacted]

f. The approval date of the dilution of preservative study is not required in Section V.A. of the Outline of Production.

3. Produced in a licensed facility
4. Approved for use by, or under the direction of, a veterinarian or nonapproved veterinary specialist
    a. CVB-IC approves non-veterinarian specialist
    b. CVB-IC approves certification of valid VCP relationship

Use of Autogenous isolates

1. The use of isolates is restricted to 12 months from harvest of the first serial or 15 months from the date of isolation.
2. Extension of use to 24 months is permitted without requesting permission from the CVB, provided the firm has the appropriate information on file, as described in VSM 800.69, and 9 CFR 113.113.

Extensions beyond 24 months are evaluated by CVB-PEL. In addition to information required for extension to 24 months, immunogenicity data and a proposed potency test must be submitted for review. For Outlines of Production using isolates extended beyond 24 months:

1. The information is added to the existing Outline and Product Code. A new product code is not requested.
2. The proposed potency test (codified or designed by firm) is added in Section V.C along with the lot number of the extended isolate.
3. If more than one isolate for the code is extended, that information is also added to Section V. C but as a separate paragraph.
4. Regulatory flexibility is used when considering exemptions for isolates used in zoo animals. 9 CFR 113.113(c)(2)(iv) requires that additional serials prepared from microorganisms that are older than 24 months from the date of isolation must be tested for antigenicity or immunogenicity in the species for which the product is

recommended, or in another animal species whose immunological response has been shown to correlate with the response of the species for which the product is recommended. An exemption to this requirement may be considered for isolates used in zoos. The exemption should be documented in Section V.C of the related Outline of Production.

5. 9 CFR 113.113(2)(iv)(B) requires that each serial of an autogenous biologic from a microorganism older than 24 months from the date of isolation must be potency tested. An exemption to this requirement may also be considered for isolates used in zoos. If this exemption is granted, Section V.C. of the related Outline of Production should be updated with the lot number of the isolate and a statement that the exemption was granted for this isolate. The mail log number associated with the exemption should also be added to the Outline of Production.

Release of First Serial and Subsequent Serials

1. First Serial (50 containers or less)
    a. Permissible to ship after 3 days of incubation on safety and abbreviated purity tests and there is no reason to suspect they will be unsatisfactory.
    b. No APHIS Form 2008 or samples to APHIS needed. (Quarterly reports of serials released are submitted to APHIS instead.)
    c. Serial recalled if final results of purity or safety test are not satisfactory.
2. Second and Subsequent Serials
    a. Must be tested as per 9 CFR 113.100 or 113.200 to include purity, safety and identification
    b. APHIS Forms 2008 submitted to CVB IC for release prior to shipment
    c. Samples submitted to APHIS unless serial is ≤ 50 containers. Confirmatory testing by APHIS may occur. For serials of ≤ 50 containers, 2 reserve samples are held and may be requested by APHIS

Required Restrictions for Autogenous Products

Restrictions for autogenous products are listed in Chapter 2.2.1, *List of Standard License Restrictions,* in the Reviewers Manual. The required restrictions are as follows:

1. LSRTIS #50, Trade Names shall not be used with this product.
2. LSRTIS #55, This license does not authorize production, distribution, or shipment of autogenous vaccine/bacterin for Foot and Mouth Disease, rindepest, any H5 or H7 subtype of avian influenza, any subtype of avian influenza in chickens, swine vesicular disease, Newcastle Diesae, African Swine Fever, classical swine fever, Brucella abortus, vesicular stomatitis, and rabbit hemorrhagic disease, or any other disease the Administrator determines may pose a risk to animal or public health.
    a. To ensure that the use of autogenous veterinary biologics does not interfere with animal disease surveillance and/or control and

eradication programs and does not post other health risks, the use of certain microorganisms is restricted.

b. Production of autogenous biologics from organisms restricted in VS Memorandum 800.103 must be approved by CVB.
c. APHIS Forms 2008 for each serial (first and subsequent) of autogenous biologics produced from restricted microorganisms must be submitted to the CVB-IC, and the serial must be released before shipment.