



Policy and Guidelines On The Use Of Freund's Adjuvant In Laboratory Animals

Background: Freund's adjuvant is used as a means of potentiating the humoral antibody response in laboratory animals through the sustained release of antigen from the oily deposit and stimulation of a local immune response. Because its use may result in painful inflammation and other undesirable effects, alternatives to Freund's adjuvant and in vivo antibody production must be considered prior to submission of an animal use protocol requesting its use (see Information on Searches for Alternatives to Animals).

Policy: When the use of Freund's adjuvant is indicated, the following guidelines must be followed.

1. Less inflammatory alternatives to Freund's adjuvant are available and should be considered. References and recommendations regarding these alternatives are available from DAR.
2. Freund's complete adjuvant may be used only for the first (priming) antigenic dose. The incomplete adjuvant may be used for subsequent immunizations.
3. Freund's adjuvant should be administered subcutaneously in rabbits. Rodents may receive intraperitoneal injections for the production of ascites fluid. Intravenous administration is prohibited. Intradermal, intramuscular, footpad and lymph node injections must be adequately justified and specifically approved by the IACUC.
4. The injection volume in larger animal species, such as rabbits, should be limited to 0.1 ml per subcutaneous site, and to 0.05 ml in smaller species, such as rats and mice. Injection sites should be adequately separated to avoid coalescing of the lesions.
5. Adequate purification of the antigen before mixing with adjuvant must be performed in order to assure it is as free as possible from extraneous microbial or chemical contamination.
6. Injection sites should be closely monitored for lesion development. The DAR veterinary staff should be notified of lesion development. When the adjuvant has been administered intraperitoneally in rodents, the animals must be monitored closely for excessive abdominal distension.
7. The minimum interval between the initial and subsequent immunizations is two weeks and may need to be delayed if significant inflammation is still present from the initial immunization.

Reference(s):

- Jackson, L.R. & Fox, J.G. Institutional Policies and Guidelines on Adjuvants and Antibody Production. ILAR Journal, 1995, 37, 141-152.
- USDA Animal Care Policy Manual, Policy #11, Painful/Distressful Procedures, April 1997 Animal Welfare Regulations, 9 CFR, chapter I, subchapter A

- USDA Animal Care Policy Manual, Policy #12, Written Narrative for Alternatives to Painful Procedures, April 1997