Column E Explanation

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1. Registration Number: 57-R-0005

2. Number 6 of animals used in this study.

3. Species (common name) Cat of animals used in the study.

4. Explain the procedures producing pain and/or distress.

Administration (intranasal) of influenza viruses to cats will produce clinical signs consistent with influenza infection. Cats were selected for this work due to a growing body of evidence that felids are susceptible to many of the novel influenza viruses circulating worldwide.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.
(For Federally mandated testing, see Item 6 below)

The goal of this study is to identify and understand the risk of influenza virus transmission amongst mammal species. A subset of influenza viruses has been characterized as having increased potential for infection, transmission, and pathogenicity in feline species. Administration of antivirals and analgesics would defeat the purpose of the study by blocking our ability to acquire necessary data on influenza infection, transmission, and pathogenicity.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9CFR 113.102):

Agency _____ CFR _____

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1. Registration Number: 57-R-0005

2. Number 8 of animals used in this study.

3. Species (common name) Deer of animals used in the study.

4. Explain the procedures producing pain and/or distress.

Administration, via an insect vector, of the virus that causes epizootic hemorrhagic disease (EHD) of deer will result in clinical signs consistent with EHD virus infection. Deer were selected for this project to evaluate the pathogenesis of a novel EHD virus strain.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.
(For Federally mandated testing, see Item 6 below)

The goals of this study include characterizing the pathogenesis of a novel EHD virus strain in both deer and cattle. This study involved administration of the EHD virus to deer and cattle via an insect vector to characterize the biological behavior of the viruses in the most appropriate animal model. Administration of antivirals would be futile; administration of analgesics to ameliorate the clinical signs would defeat the purpose of the study by blocking our ability to acquire necessary data on EHD virus infection, transmission, and pathogenicity.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9CFR 113.102):

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1. Registration Number: 57-R-0005

2. Number 134 of animals used in this study.

3. Species (common name) Ferret of animals used in the study.

4. Explain the procedures producing pain and/or distress.

Influenza inoculations will be performed under isoflurane or ketamine anesthesia in a biosafety cabinet. Each forrot will be individually removed from microisolator caging and anesthetized, and 0.2 mL of influenza inoculum will be dripped into the nares using IV catheter tubing on a syringe (0.1 mL per nostril) with the ferret in an upright position. Procedures include use of infectious agents (influenza virus); Specimen collection (bronchioalveolar lavage, nasal wash, blood collection, swabs (rectal, oral, nasal, conjunctival, etc); plethysmography, euthanasia, monitoring for clinical disease (symptoms, weight loss, fever, activity), microchip identification, vaccination, drug treatment, antibody treatment.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.
(For Federally mandated testing, see Item 6 below)

As a part of monitoring disease, animals are monitored for fever, weight loss, activity and lethargy. Treatment of ferrets with analgesics can alter these endpoints, which are aspects of criteria for euthanasia. Moreover, the anti-inflammatory activity of analgesics would interfere with pathology studies, a key endpoint in these studies. Finally, some analgesics may cause respiratory depression or vomiting, which would be of greater concern than the mild symptoms expected form infection.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9CFR 113.102):

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1. Registration Number: 57-R-0005

2. Number 16 of animals used in this study.

3. Species (common name) Guinea Pig of animals used in the study.

4. Explain the procedures producing pain and/or distress.

Infection of Guinea pigs with M tuberculosis
These animals will be exposed to Mtb aersosols generated by the Madison Aerosol Chamber. To optimize delivered dose (30-100 CFU) we will need to perform several runs of the machine, varying length of exposure and concentration of bacilli in the nebulizer.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.
(For Federally mandated testing, see Item 6 below)

Animals must be infected and in some cases demonstrate clinical signs to determine if a mutation affects the virulence of the organism or if vaccination is effective. Thus it may be necessary to maintain minimally ill animals at some point during the course of the experiment. As the humane endpoints scoresheet documents in Section 10.2, animals will be euthanized if the sum of the clinical scoring is greater than or equal to 3. In addition, we will not withhold sedation or anesthesia where indicated.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9CFR 113.102):

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1. Registration Number: 57-R-0005

2. Number 3 of animals used in this study.

3. Species (common name) Horse of animals used in the study.

4. Explain the procedures producing pain and/or distress.

Experimental infections with vesicular stomatitis virus to investigate differences in course of infection associated with various transmission routes and VSNJV strains. Animals are infected via an insect vector in contact with the skin and mucocutaneous areas. Horses, cattle, and swine are among the most common hosts for this disease. VSV is a federally reportable disease which produces clinical signs similar to Foot-and-Mouth Disease (FMD). Animals develop transient moderate clinical signs, such as oral ulceration, ...etc, from which they recover after 10 days.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.
(For Federally mandated testing, see Item 6 below)

In order meet our scientific objectives we needed to follow course of infection as it would occur under natural situations – specifically we monitored duration and extent of virus shedding and well as level of discomfort such as lameness or unwillingness to stand, walk, or feed. Therefore any method or mean to reduce distress or pain (such as use of antivirals or analgesics) would have biased the results.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9CFR 113.102):

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