HEALTH SCIENCES
OFFICE OF RESEARCH

Office of Animal Care Compliance

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USDA Category E Explanation

Registration Number: **85-R-0014**, Customer Number: **1076**

There were 18 rabbits in this study, 12 rabbits were in Category E

Rabbits are used as a model of viral pathogenesis and viral toxicity. Nine rabbits progressed to humane endpoint criteria from signs of infection. Signs included fever, inappetence, swelling at the site of injection, and nasal/aural swelling. Animals were assessed at least twice daily and scored for reaching humane endpoint criteria including signs of viral infection such as changes to posture/attitude, eating and drinking, heart rate, respiration, temperature, body weight, feces/urine production and evaluation of the skin. Once rabbits reached endpoint criteria via a published standard scoring system,[1] they were immediately humanely euthanized. All other rabbits used on the study did not reach endpoint criteria.

Analgesic agents cannot be administered in these studies for the following reasons:

- Narcotic analgesics can cause histamine release and induce respiratory depression that could alter the pathogenic and clinical response to infection. These effects of narcotic analgesics could interfere with (and may invalidate) the evaluation of vaccines.[2]
- Nonsteroidal anti-inflammatory drugs can also alter the pathogenesis of infection and clinical responses to viral infection and oncogenesis. Such effects could also invalidate evaluations of vaccine potency.[3]

Prior to the initiation of these studies, a literature search was conducted to identify possible alternative models for the testing of antiviral agents. No suitable models were identified that could replace the current *in vivo* vaccine efficacy study that includes clinical evidence of disease and possible moribundity as critical experimental endpoints.

References:

[1]Wolfe AM, Rahman M, McFadden DG, and Bartee EC. Refinement and Successful Implementation of a Scoring System for Myxomatosis in a Susceptible Rabbit (*Oryctolagus cuniculus*) Model. *Comp Med* 2018 Aug 1;68(4):280-285.
[2]Yamanaka T, Sadikot RT. Opioid effect on lungs. *Respirology*. 2013 Feb;18(2):255-62.
[3]Dempke W, Rie C, Grothey A, Schmoll HJ. Cyclooxygenase-2: a novel target for cancer chemotherapy? *J Cancer Res Clin Oncol.* 2001 Jul;127(7):411-7.