95F0001

Optional Column E Explanation Form

This form is intended as an aid to completing the Column E explanation. It is not an official form and its use is voluntary. Names, addresses, protocols, veterinary care programs, and the like, are not required as part of an explanation. A Column E explanation must be written so as to be understood by lay persons as well as scientists.

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1. **Registration Number:** 95-F-0001

2. **Number** 13 **of animals used in this study.**

3. **Species** (common name) guinea pigs **of animals used in this study.**

4. **Explain the procedure producing pain and/or distress.**

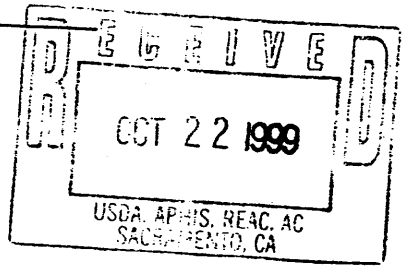
Starting at one to two days of age, neonatal guinea pigs are exposed to an atmosphere of 95% oxygen and 20 ppm nitric oxide for up to five days. Exposure to hyperoxia alone often produces respiratory distress after three to five days of exposure. Exposure to the combination of hyperoxia and nitric oxide may also result in respiratory distress. It should be noted that an early endpoint is used in this study: the guinea pigs are euthanized as soon as they progress beyond mild respiratory distress to develop cyanosis, lethargy, pallor, or abnormal resting posture.

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 question 6 below)

The development of lung injury was a parameter being studied. Relief of any respiratory distress would have required anesthesia and intubation, both of which would have confounded the natural course of the pulmonary effects of hyperoxia and the potential mediating effects of nitric oxide. Furthermore, intubation and mechanical ventilation would potentially introduce barotrauma as a confounding source of lung injury. Literature searches failed to reveal an alternative to the use of animals to measure the whole animal physiological functions of interest.

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, 9 CFR 113.102):**

Agency_____ **CFR**_____



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