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**OMB APPROVED**  
0579-0036

Interagency Report Control No. 0180-DOA-AN

Fiscal year: 2022

**UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE**

**Annual Report of Research Facility  
Column E Explanation**

*(TYPE OR PRINT)*

This information is required by law (7 U.S.C. 2143 and 9 C.F.R. §2.36). Failure to report according to the regulations can result in an order to cease and desist.

**1. REGISTRATION NUMBER**

93-R-0435

**2. Research Facility Headquarters address**

University of California, Los Angeles  
Division of Laboratory Animal Medicine  
10833 Le Conte Ave, Suite # 16-222 CHS  
Los Angeles, CA 90095

**3. Number of animals used in the study.**

30

**4. Species (common name) of animals used  
inthe study.**

Hamsters

**5. Explain the procedure producing pain and distress.**

*Clostridium difficile* will be administered to hamsters via oral gavage. Pain/discomfort induced by this infectious agent will not be alleviated with medications.

**6. Provide the scientific justification for not providing the appropriate anesthetics, analgesics, or tranquilizing drugs during procedures where the animal experienced accompanying pain or distress greater than momentary or slight.**

Animals will not be given any kind of pain reliever because the responses we measure in these experiments include the release of pro-inflammatory cytokines and chemokines from the intestinal mucosa as well as the degree of the small intestinal and colonic mucosal ulceration.

Pain relief will affect the response we will measure. Literature justification was the same as described below:

Lab Anim. 2000 Oct;34(4):423-9 Volker D, Bate M, Gentle R, Garg M.

Oral buprenorphine is anti-inflammatory and modulates the pathogenesis of streptococcal cell wall polymer induced arthritis in the Lew/SSN rat.

Most researchers may fear the inclusion buprenorphine may interfere colitis experiments. At this moment, we would rather not use it.

PLoS One. 2013;8(1):e54040. doi: 10.1371/journal.pone.0054040. Epub 2013 Jan 18.

Morphine induces bacterial translocation in mice by compromising intestinal barrier function in a TLR dependent manner.

Meng J1, Yu H, Ma J, Wang J, Banerjee S, Charboneau R, Barke RA, Roy S.

Morphine leads to bacterial translocation in intestine. Bacterial translocation in intestine may cause intestinal inflammation.

NSAIDS definitely affect colitis course with its anti-inflammatory effects.

Inflamm Res. 2005 Apr;54(4):145-51.

The COX-2 inhibitor, rofecoxib, ameliorates dextran sulphate sodium induced colitis in mice.

Martín AR1, Villegas I, Alarcón de la Lastra C.

Other analgesics such as tramadol and gabapentin are not suitable for our experiments based on the following reports:

- Agri. 2004 Jul;16(3):53-8.

The analgesic and anti-inflammatory effects of subcutaneous bupivacaine, morphine and tramadol in rats.

Gerçek A1, Eti Z, Göğüş FY, Sav A.

- The effects of intrathecal and systemic gabapentin on spinal substance P release.

Anesth Analg. April 2011;112(4):971-6.

Toshifumi Takasusuki1; Tony L Yaksh

- Gabapentin reverses microglial activation in the spinal cord of streptozotocin-induced diabetic rats.

Eur J Pain. September 2009;13(8):807-11.

Rachel Wodarski1; Anna K Clark; John Grist; Fabien Marchand; Marzia Malcangio

**7. 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):**

None

**Agency**

**CFR**