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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

34-R-0014

**2. Research Facility Headquarters address
Wayne State University**

**3. Number of animals used in the study.
184**

**4. Species (common name) of animals used in the study.
Rabbit**

4. Explain the procedure producing pain and distress.

Forced Swim test. Age of animals: p1-p30. Rabbit kits are placed in a water tank, attached to a harness. The harness is used to support the animal and prevent distress from the head going under water. This test is performed to evaluate motor coordination in the kits. Kits are immediately dried off after the test.

Duration of Test: 30-60 seconds

Classical Eye Blink Conditioning Test. Age of rabbit kits: P18 and older. Rabbits are restrained in a device and are trained to a conditioned response (blink) after they are presented with a conditional stimuli (sound) in order to avoid an air puff. This is a validated measure of learning ability.

The duration of the session is between 30-60 min.

5. 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.

In the Forced Swim Test, as this is forced exercise of the rabbit kits, it is appropriately placed in Category E. This is a validated method of assessing motor coordination in rabbit kits according to multiple publications and will be used in this research study of cerebral palsy. In the Classical Eye Blink Conditioning Test, the animals experience prolonged restraint greater than 30 minutes, which according to WSU IACUC guidelines is categorized into category E. This test is used to assess learning ability in this animal model of cerebral palsy. These tests in the neurobehavioral battery avoid the use of anesthetic and analgesic agents because animals need to be awake and responsive to perform motor and cognitive tasks. This allows the lab to differentiate between affected and non-affected animals by measuring the neurological responses akin to human infants and children.

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):

Agency

CFR

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**2. Research Facility Headquarters address
Wayne State University**

3. Number of animals used in the study.

6

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

Pig

4. Explain the procedure producing pain and distress.

DSS Colitis: Pigs are fed Dextran Sodium Sulfate PO to induce mild to moderate inflammatory colitis. DSS colitis models are a very common way to study a myriad of inflammatory gut conditions. As we anticipate diarrhea and abdominal discomfort and will withhold treatment except for rehydration of the patient, this procedure best fit into category E.

5. 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.

This protocol aims to investigate the clinical differences between pigs receiving DSS alone versus DSS with hydrogel injections. Drugs like loperamide, an anti-diarrheal medication, would directly alter the clinical signs observed and the model of colitis studied. Opioids and non-steroidal anti-inflammatories alter the immune system, which is also being investigated under this protocol. Moreover, opioids and NSAIDs have been described to alter the course of DSS-induced colitis in mice (Carcinogenesis vol.31 no.4 pp.729–736, 2010; J Crohns Colitis. 2020 Jul 9;14(6):801-817. doi: 10.1093/ecco-jcc/jjz188). Mild to moderate diarrhea is expected with the current protocol along with lethargy and abdominal pain. If diarrhea leads to clinical dehydration, a DLAR veterinarian will be consulted with to develop a treatment plan. Oral electrolytes and intravascular fluids may be implemented as interventions, per vet prescription

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Agency

CFR