

2021-11497 (b) (6), (b) (7)(C)

Thirteen-lined ground squirrels (n=30) experienced either 48-hour food withholding or 24-hour water withholding in order to study the physiological and metabolic resilience to food scarcity and adaptations in the regulation of internal water balance during hibernation. Animals were implanted with telemetric wireless transponders that measured and transmitted core body temperature and changes in the vital signs. There are no suitable alternatives to food or water withholding, as this mimics what squirrels may experience in the natural environment.

1. 2021-10312 (b) (6), (b) (7)(C)

Hamsters (n=91) were administered with subcutaneous infections of *Necator americanus* and allowed to display a range of expected clinical responses. Animals displayed swelling at the infection site, ruffled, hunched hypoactive and isolated in a cage corner away from cage mates. These clinical signs resolve, and animals return to normal behavior permitting the development of adult worms and a patent infection for the continued propagation of the *N. americanus* life cycle. Animals that remained recumbent and were not able to right themselves or hypoactive animals were removed from the study and humanely euthanized. Although, pain may be temporarily present, analgesics/anti-inflammatory agents were not administered to the animals as the clinical course of infection cannot be interrupted or altered as the effect of the addition of added therapeutics on the development of the parasites remains unknown.

2. 2020-11424 (b) (6), (b) (7)(C)

Hamsters (n=791) were used to identify potential vaccine candidates for an infectious biological agent that causes clinical disease in humans and is a public and world health concern. Animals demonstrated expected clinical signs of systemic disease which included decreased activity, hunched posture, and ruffled fur and disease specific clinical signs such as pulmonary, neurologic and/or vascular abnormalities. Since the clinical course of the disease is immunopathologically-based, the use of analgesics and/or anti-inflammatory drugs will alter the disease pathogenesis and confound interpretation of vaccine efficacy.