CNS|CRO
Preclinical Neurological Disease Services

Global Stroke Model

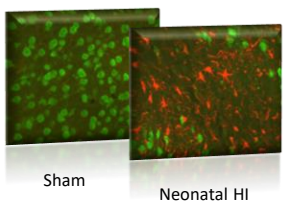
Model Overview

CNS|CRO's animal model of global stroke is produced by permanent ligation of the carotid artery in neonatal rat pups. For evaluation of compound efficacy, CNSCRO offers a complete line of behavioural testing paradigms during stroke recovery, as well as the ability to evaluate communicative function through ultrasonic vocalization technology. Complex behavioural testing paradigms specifically designed for neonatal animals can be interfaced with testing during adulthood and combined with appropriate histology and/or neurochemistry, providing a fully customizable assessment package.

Model of Global Stroke:

Neonatal hypoxia-ischemia

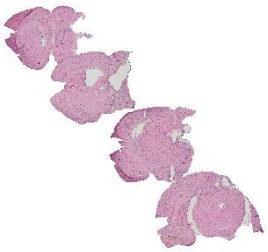
- produced in 7 day old rat pups by inducing unilateral hypoxia-ischemia (HI; modified Levine model)
- use of a multi-chamber closed system induction apparatus allows multiple animals from all conditions to be treated simultaneously, with minimal separation time from the dam



GFAP and NeuN, shown in red and green respectively, seven days post-surgery.

Example images of neonatal HI brains 7 days post-stroke.

Sham control



Stroke control

This model produces an infarct of sufficient severity to make it well suited for pharmacological, biochemical, or physiological studies

CNS|CRO behavioral testing paradigms provide evaluation for emotionality, cognition, sensorimotor deficits, learning, and memory function

Ultrasonic vocalization (USV) testing is also available as an add-on feature for most tests, allowing for assessment of communicative function and affective state