

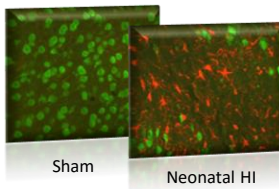
Model Overview

CNS|CRO's animal models of stroke include both global and focal protocols, usable in neonatal and adult conditions. 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 adult testing and combined with appropriate histology and/or neurochemistry, providing a fully customizable assessment package.

Models 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



CNS|CRO's intensive post-surgery care protocol results in a >90% survival rate, allowing for evaluation of a more clinically-relevant post-stroke population

Carotid vessel occlusion

- available in both mouse and rat
- provides temporary or permanent occlusion models with stroke severity further manipulated through the number of arteries targeted (1 to 4 vessels)

Models of Focal Stroke:

Endothelin-1 microinjections (ET-1)

- stereotaxic microinjections of ET-1 produce highly reproducible, defined lesions that correlate with functional loss in specialized brain regions
- injection of ET-1 in the vicinity of the MCA produces lesions comparable to those observed using the MCAo technique

CNS|CRO behavioural 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