Neuro Detective©
INTERNATIONAL
A Contract Research Network Of Neuroscientists

STROKE MODELS

NDI scientists are among the world's most active researchers in the stroke field, employing several animal models with an emphasis on behavioral recovery. We offer expertise in the following models.

- MCAO
- Intraluminal insertion
- Electro-coagulation
- Clip
- Devascularization (pial stripping)
- Embolic
- Four-Vessel and Two-Vessel Occlusion
- Photochemical

BEHAVIOR TESTING

A key element of testing potential therapeutics in stroke is the ability to assess functional recovery, in addition to the more common assessment of infarct size. Moreover, in rodent models some behaviors initially impaired by the stroke recover naturally. Thus it is especially important to be able to distinguish between a test compound's ability to speed normal recovery, vs. its ability to produce recovery of functions otherwise lost.

Below is a listing of the behavioral tests offered:

- Reaching
- Forelimb Asymmetry
- Tactile Placing
- Forepaw Inhibition
- Tongue Protrusion

MORPHOLOGICAL ANALYSIS

Infarct size

The area of the lesion in the cortex is determined from tissue sections by measuring remaining cortical volume, and expressing the result as a percentage of the opposite (intact) side.

Axonal sprouting

As an option, sprouting by cortical axons from the intact cortex into the hemiparetic side of the brain can be analyzed by injecting an anterograde tracer (e.g. BDA beads).

Dendritic sprouting

As an option, sprouting by dendrites of surviving neurons on the lesioned side can be analyzed using Golgi-Cox staining. This technique also allows analysis of changes in the synapse number.

Selected references from NDI stroke scientists

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