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#### Behavioral analysis

**Open field.** Spontaneous locomotor activity in a novel environment was assessed with the open field test as previously described (1).

**Grid walk.** Deficits in descending motor control were examined by assessing the ability to cross a 1-m-long runway with irregularly spaced bars (1–4 cm) elevated 1 m above the ground, as previously described (2).

All behavioral analyses were performed by a team of two investigators under blind conditions.

#### Histopathology and immunohistochemistry

Histopathological and immunohistochemical analysis of uninjured spinal cords was performed as described in Materials and methods.

#### Neuronal cell count

Neuronal cell count was performed as described in the Morphometric analysis section.

#### TUNEL staining

Nuclear DNA fragmentation was detected by fluorescent TUNEL staining with the ApoAlert DNA Fragmentation Assay Kit (CLONTECH Laboratories, Inc.) according to manufacturer's instructions. In brief, samples were incubated with TdT and the fluorescein-dUTP-labeled DNA fragments generated were detected with a fluorescence microscope equipped with a FITC filter. As a negative control, samples were processed in the absence of TdT. As a positive control, samples were treated with DNaseI before incubating with TdT.

#### REFERENCES

1. Alexis, N.E., W.D. Dietrich, E.J. Green, R. Prado, and B.D. Watson. 1995. Nonocclusive common carotid artery thrombosis in the rat results in reversible sensorimotor and cognitive behavioral deficits. *Stroke*. 26:2338–2346.
2. Metz, G.A., D. Merkler, V. Dietz, M.E. Schwab, and K. Fouad. 2000. Efficient testing of motor function in spinal cord injured rats. *Brain Res.* 883:165–177.