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Optical densitometry of tyrosine hydroxylase fibers

In 1 collection

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ABSTRACT

Protocol for quantifying TH+ fibers in rat striatum and substantia nigra pars reticulata (SNpr)

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1 Acquire images with a light microscope of immunostained serial coronal sections covering the caudo-rostral of the brain regions (3sections/animal for striatum and SNpr)

2 Open ImageJ (RRID:SCR_003070,https://imagej.net/)

3 Calibrate grey mean values for standard optical density values

4 Open 8-bit images in ImageJ, trace the region of interest (striatum, SNpr), and measure the optical density. Then, in the same image, trace the region of interest in a blank area (cortex for striatum, surrounding neuropil for SNpr) and measure the optical density.

5 Calculate the optical density by subtracting the background optical density from the striatal optical density (if traced region of interest areas are the same) or by the formula: SNpr Integrated density-[(SNpr area) x (background optical density)]