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STN optotagging

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Protocol status: Working
We use this protocol and it's working

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Abstract

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1 A custom-made optrode was made with an optic fiber (100 mm diameter, Thorlabs) connected to a laser (MBL-III-473 nm-100 mW laser, CNI Lasers, Changchun, China) mounted and glued on the recording glass micropipette which was filled with 2% pontamine sky blue in 0.5 mM sodium acetate (tip diameter 1–2 mm, resistance 10–15 MU).

2 The distance between the end of the optic fiber and the tip of the recording pipette varied between 650 nm and 950 nm.

3 Extracellular action potentials were recorded and amplified with an Axoclamp-2B and filtered (300 Hz/0.5 kHz).

4 Single extracellular spikes were collected online (CED 1401, SPIKE2; Cambridge Electronic Design).

5 The laser power was measured before starting each experiment using a power meter (PM100D; Thorlabs). The baseline was recorded for 100 s for each neuron before starting any light stimulation protocols which were set and triggered with Spike2 software.

6 Light protocol consisted in a peristimulus time histogram (PSTH, 0.5 Hz, 5 ms pulse duration, 5–8 mW) for at least 100 s followed, after returned to baseline, by a ‘‘behavioral’’ protocol corresponding to the parameters used for behavioral experiments (20 Hz, 5 ms pulse duration, 5–8 mW).