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Monosynaptic Rabies Tracing

Forked from Mouse Stereotaxic Surgery

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ABSTRACT

This protocol describes the steps for performing stereotaxic surgery in mice. It is applicable to intracranial injections (e.g. virus, drug) and placement of implants (e.g. optical fibers, electrode arrays) into targeted regions of mouse brains.

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

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1 Rabies injections were performed in a BSL-2 surgical suite following the protocol described in dx.doi.org/10.17504/protocols.io.n2bvj6qynlk5/v1

1.1 For modified, G-deleted rabies viruses, first inject a Cre-dependent helper virus (AAV-DIO-sTpEpB-GFP) to restrict expression of the EnvA receptor (TVA) and rabies glycoprotein necessary for subsequent rabies virus infection.

1.2 2 weeks later, inject the modified, G-deleted rabies virus (EnvA-G-deleted-rabies-mCherry) into the same coordinates as the helper virus.

1.3 For a detailed protocol regarding subsequent perfusion, sectioning, staining, imaging, and analysis with MBF NeuroInfo software, see Eastwood, et al., 2019

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6570587/